

## Lampiran

### Lampiran 1. *Result of Analysis (ROA) Minyak Biji Anggur*



No : SIG.CL.VI.2020.018882  
Lamp : 1 Halaman  
Perihal : Laporan Hasil Uji Laboratorium

Bogor, 23 Juni 2020

Kepada Yth.  
PT. Tamba Sanjiwani  
Jl. Meliling Km 1 Br. Dinas Meliling Kawan, Meliling, Kerambitan Kab. Tabanan - Bali

Dengan hormat,  
Berdasarkan surat order marketing nomor : SIG.Mark.OTK.VI.2020.003004 ,maka bersama ini kami sampaikan hasil uji analisis laboratorium untuk sample produk :

Nama Sample : Grapeseed Oil  
Keterangan : Terlampir

Demikian surat ini kami sampaikan semoga dapat dipergunakan sebagaimana mestinya.  
Atas kerjasamanya yang baik kami mengucapkan terima kasih.

Hormat kami,  
PT. Saraswanti Indo Genetech



**Robertus B.Aryo**  
Manager Marketing

Result of analysis on page I



## PT. SARASWANTI INDO GENETECH ONE STOP LABORATORY SERVICES

Main Office and Laboratory: Graha SIG J. Rasonala No.25 Taman Yasmin Bogor 16113 INDONESIA  
Jakarta Branch: J. Percetakan Negara No. 52 B RT 006/RW 001 Kel. Rawasari, Kec. Cempaka Putih, Jakarta INDONESIA  
Phone: (Bogor) +62-251-7532348 (Jakarta) +62-21-21479102 (Surabaya) 031-8679955 (Semarang) +62-41381706905 (Hunting) +62-62111516516 Fax: +62-251-7540927 - 7540628  
www.siglaboratory.com

No 28/F-PP/SMM-SIG  
Revisi : 3

### RESULT OF ANALYSIS

Laporan Hasil Pengujian  
SIG.LHP.VI.2020.059498

- I. **Number / Nomor**
  - 1.1. Order No. / No. Order : SIG.Mark.OTK.VI.2020.003004
- II. **Principal / Pelanggan**
  - 2.1. Name / Nama : PT. Tamba Sanjiwani
  - 2.2. Address / Alamat : Jl. Meliling Km 1 Br. Dinas Meliling Kawan,  
Meliling, Kerambitan Kab. Tabanan - Bali
  - 2.3. Phone / Telepon : 021-58303028
  - 2.4. Contact Person / Personil Penghubung : Trie
- III. **Sample / Contoh Uji**
  - 3.1. Sample Code / Kode Sampel : -
  - 3.2. Batch Number / No Batch : -
  - 3.3. Lot Number / No Lot : -
  - 3.4. Packaging / Kemasan : -
  - 3.5. Production Date / Tanggal Produksi : -
  - 3.6. Expire Date / Tanggal Kadaluaarsa : -
  - 3.7. Factory Name / Nama Pabrik : -
  - 3.8. Factory Address / Alamat Pabrik : -
  - 3.9. Trade Mark / Nama Dagang : -
  - 3.10. Sample Name / Nama Sample : Grapeseed Oil

Result of analysis on page II

The results of these tests relate only to the sample(s) submitted. This report shall not be reproduced except in full context, without the written approval of PT. Saraswanti Indo Genetech.



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[www.siglaboratory.com](http://www.siglaboratory.com)

No. 28/F-PP/SMM-SIG  
Revisi : 3

### RESULT OF ANALYSIS

*Laporan Hasil Pengujian*  
No : SIG.LHP.VI.2020.059498

3.11 Other Information / Keterangan lain	: -
3.11.1. No Notifikasi	: -
3.11.2. No Pengajuan	: -
3.11.3. No Registrasi	: -
3.11.4. No Principal Code	: -
3.12. Date of Received / Diterima	: June 11, 2020
3.13. Date of Analysis/ Tanggal Uji	: June 12, 2020 - June 22, 2020
3.14. Type of Analysis/ Jenis Uji	: Terlampir
<b>IV. Result / Hasil Uji</b>	

Next page 3 / Halaman selanjutnya 3

Result of analysis on page III

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# PT. SARASWATI INDO GENETECH

## ONE STOP LABORATORY SERVICES

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Jakarta Branch: J. Percetakan Negara No. 52 B RT 006/RW 001 Kel. Rawasari, Kac. Cempaka Putih, Jakarta INDONESIA  
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www.siglaboratory.com

No 28F-PP/SMM-SIG  
Revisi : 3

### Result of Analysis

No : SIG.LHP.VI.2020.059498

No.	Parameter	Unit	Result	Limit Of Detection	Method
1	ALT	colony / g	<10	-	USP 42 NF 37 Tahun 2019
2	Kapang Khamir	colony / g	<10	-	USP 42 NF 37 Tahun 2019
3	Staphylococcus aureus	/ g	Negative	-	USP 42 NF 37 Tahun 2019
4	Pseudomonas aeruginosa	/ g	Negative	-	USP 42 NF 37 Tahun 2019
5	Bau	-	Normal	-	18-11-66/MU/SMM-SIG
6	Warna	-	Kuning	-	18-11-66/MU/SMM-SIG
7	Bentuk	-	Cair	-	18-11-66/MU/SMM-SIG

Bogor, 23 Juni 2020  
PT. Saraswati Indo Genetech



Dwi Yulianto Laksono, S.Si  
Manager Laboratorium

Result of analysis on page IV

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## Lampiran 2. Skrining Fitokimia dan pH Minyak Biji Anggur



Minyak biji anggur



Terpenoid



Flavonoid



Saponin



Fenolik



pH minyak

### Lampiran 3. Pembuatan Nanoliposom Minyak Biji Anggur



Soxletasi liposom



soxletasi liposom setelah terbentuk suspensi



Ultraturax nanoliposom

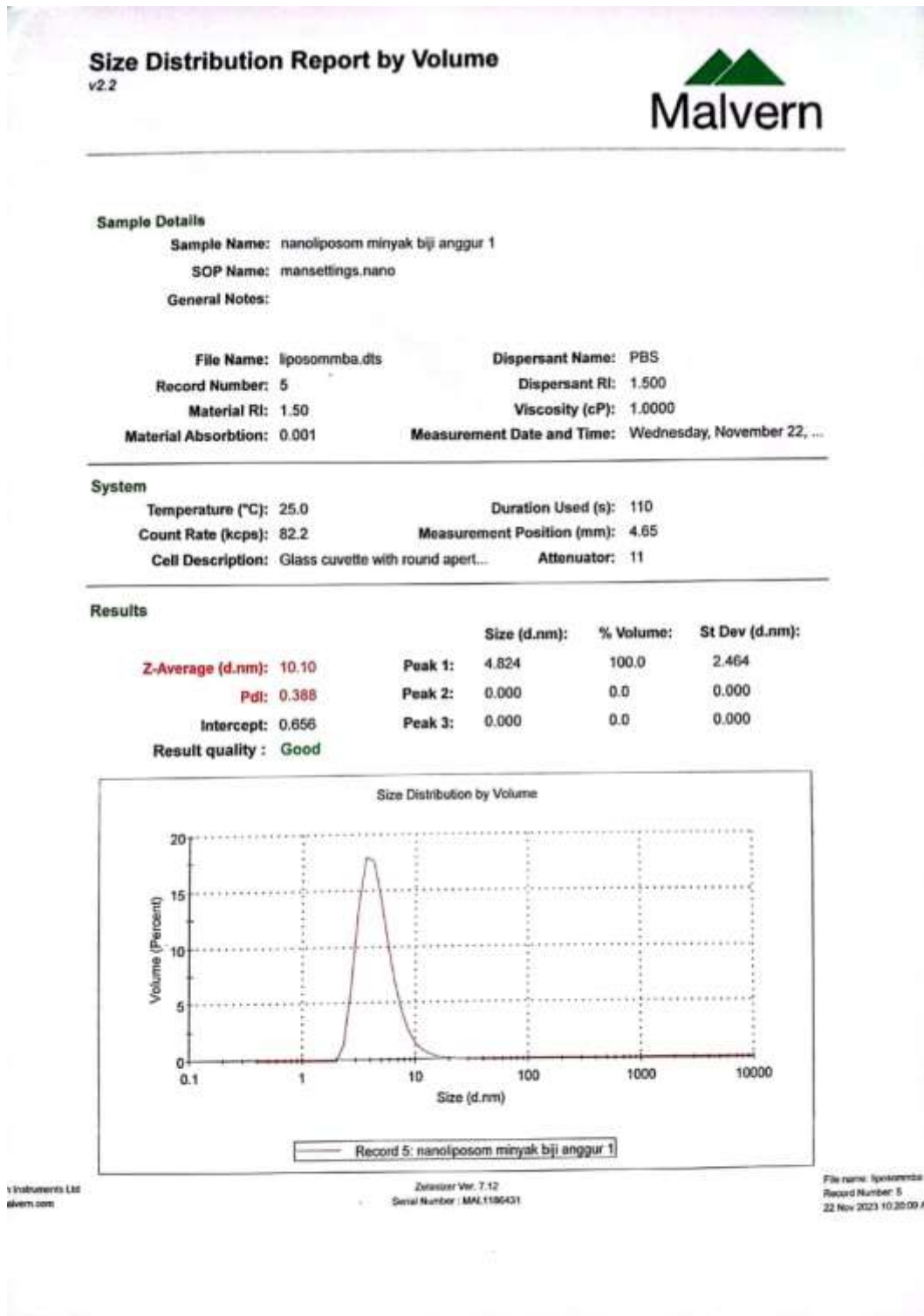


Nanoliposom



pH nanoliposom

## Lampiran 4. Uji PSA (*Particle Size Analyzer*) Nanoliposom Minyak Biji Anggur



## Lampiran 5. Pembuatan Serum Nanoliposom Minyak Biji Anggur dan Uji

### 1. Karakteristik Fisik



Serum Formula 2

Serum Formula 1

#### a. Uji Organoleptis



Serum F1R1 dan F2R1





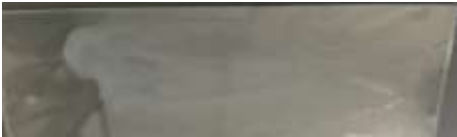



Serum F1R2 dan F2R2



Serum F1R3 dan F2R3



## 2. Uji Homogenitas

 <p>F1R1</p>	 <p>F1R2</p>
 <p>F1R3</p>	 <p>F2R1</p>
 <p>F2R2</p>	 <p>F2R3</p>

### 3. Uji Ph



pH serum F1R1



pH serum F1R2



pH serum F1R3



pH serum F2R1



pH serum F2R2



pH serum F2R3

#### 4. Uji Viskositas



Viskositas serum F1R1



Viskositas serum F1R2



Viskositas serum F1R13



Viskositas serum F2R1



Viskositas serum F2R2



Viskositas serum F2R3

## 5. Uji daya sebar

### Hasil uji daya sebar

#### Formulasi 1 Replikasi 1

Formula 1

Beban (g)	Daya sebar serum nanoliposom minyak biji anggur			Rata-rata ± SD
	R1	R2	R3	
25,79 (tutup)	5,12	5,21	5,24	5,19 ± 0,06
25,79 + 50	5,69	5,44	5,42	5,52 ± 0,15
25,79 + 100	6,01	5,9	5,82	5,91 ± 0,09
25,79 + 150	6,31	6,15	6,17	6,21 ± 0,08
25,79 + 200	6,51	6,6	6,35	6,48 ± 0,13
25,79 + 250	6,77	6,84	6,74	6,78 ± 0,05

## Formula 2

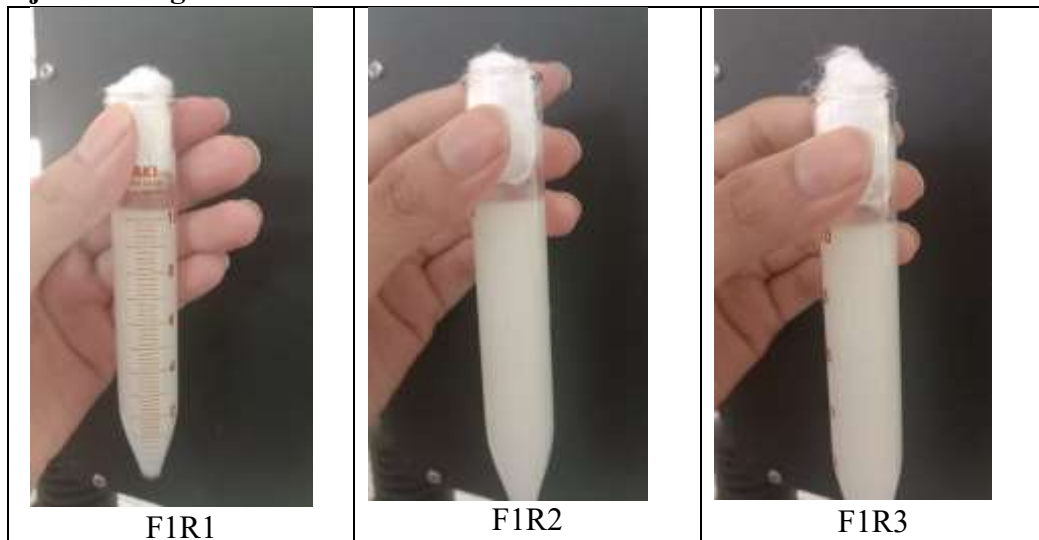
Beban (g)	Daya sebar serum nanoliposom minyak biji anggur			Rata-rata ± SD
	R1	R2	R3	
25,79 (tutup)	5,21	5,11	5,25	5,19 ± 0,07
25,79 + 50	5,42	5,3	5,45	5,39 ± 0,08
25,79 + 100	5,69	5,67	5,86	5,74 ± 0,10
25,79 + 150	6,01	6,95	6,18	6,38 ± 0,50
25,79 + 200	6,23	6,22	6,41	6,23 ± 0,11
25,79 + 250	6,56	6,45	6,68	6,56 ± 0,12

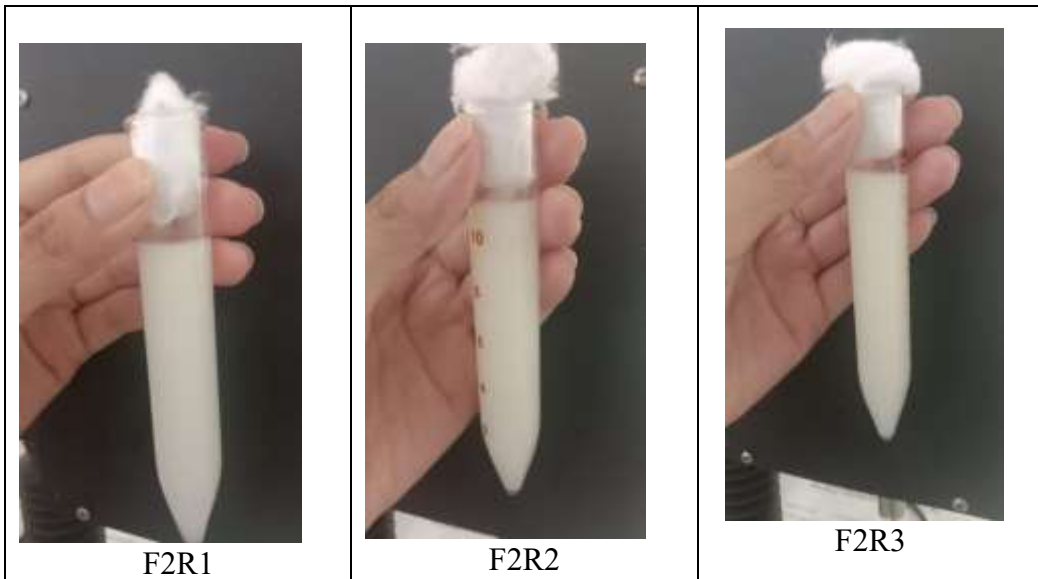
## 6. Daya lekat

### Hasil daya lekat serum

Replikasi	Daya lekat formula 1 (detik)	Daya lekat formula 2 (detik)
Replikasi 1	4	5
Replikasi 2	4	4
Replikasi 3	3	5
<b>Rata - rata</b>	<b>3,67 ± 0,58</b>	<b>4,67 ± 0,58</b>

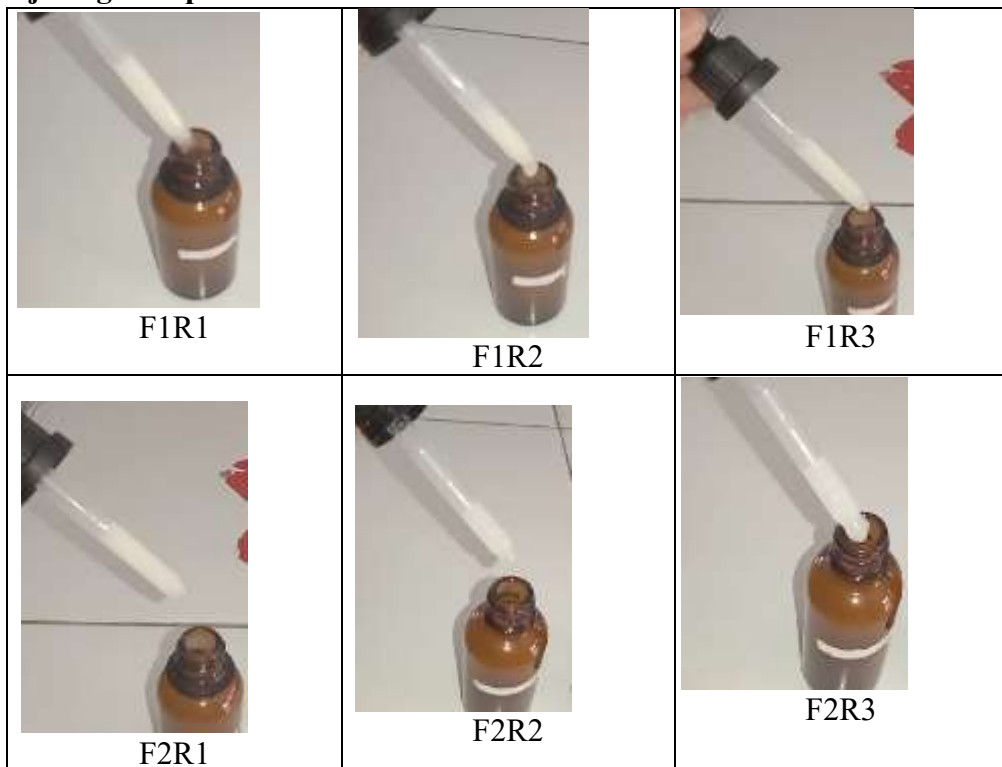
## 7. Uji Sentrifugasi




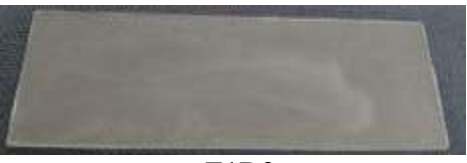






**8. Uji Cycling Test**





**1) Uji Organoleptis**



2) Uji Homogenitas

 <p>F1R1</p>	 <p>F1R2</p>
 <p>F1R3</p>	 <p>F2R1</p>
 <p>F2R2</p>	 <p>F2R3</p>

3) Uji pH

 <p>pH serum F1R1</p>	 <p>pH serum F1R2</p>
 <p>pH serum F1R3</p>	 <p>pH serum F2R1</p>



pH serum F2R2



pH serum F2R3

#### 4) Uji Viskositas



Viskositas serum F1R1



Viskositas serum F1R2





Viskositas serum F1R3



Viskositas serum F2R1



Viskositas serum F2R2



Viskositas serum F2R3

**5) Uji Daya  
Daya Sebar F1R1**

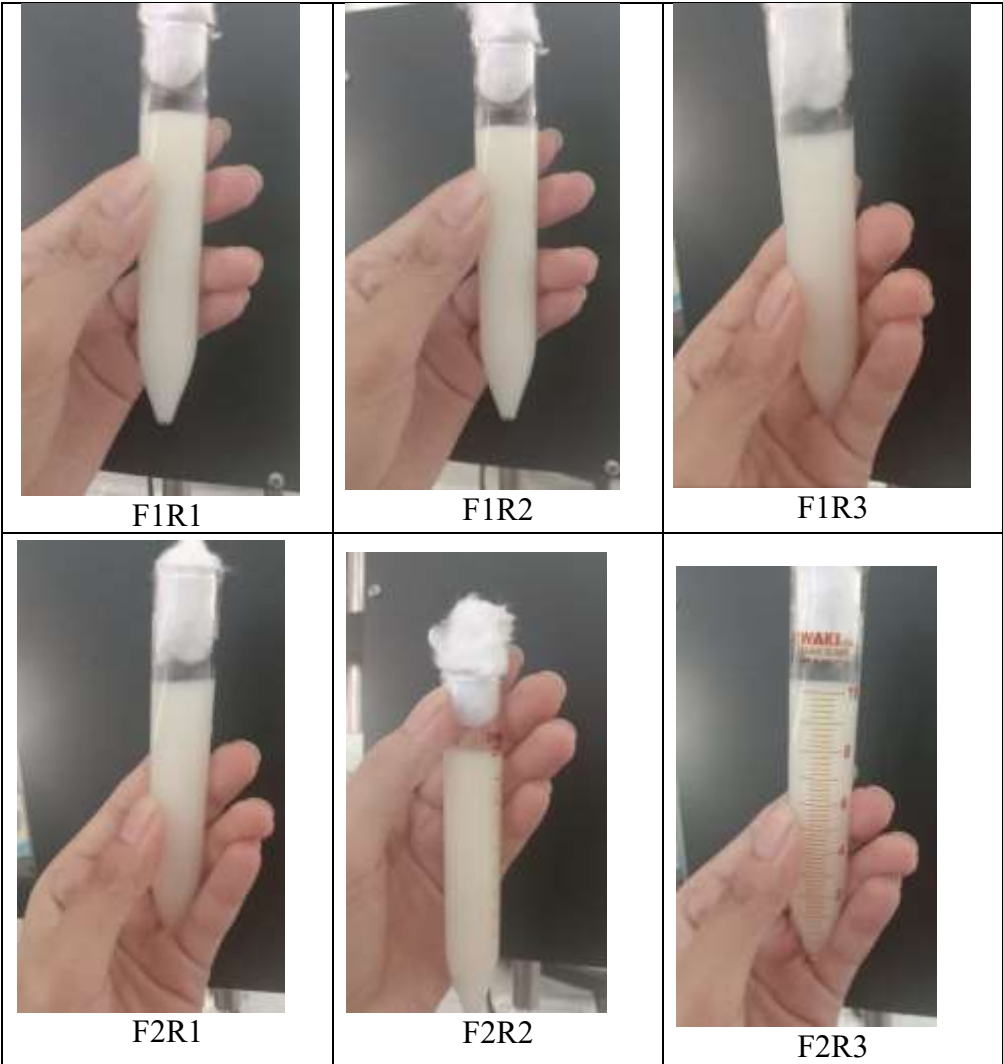
Beban (g)	Daya sebar serum nanoliposom minyak biji anggur			Rata-rata ± SD
	R1	R2	R3	
25,79 (tutup)	6,27	5,85	5,78	5,97 ± 0,27
25,79 + 50	6,3	6,05	5,96	6,10 ± 0,18
25,79 + 100	6,45	6,23	6,11	6,26 ± 0,12
25,79 + 150	6,62	6,44	6,38	6,48 ± 0,12
25,79 + 200	6,78	6,66	6,64	6,69 ± 0,08
25,79 + 250	7,03	6,99	6,93	6,98 ± 0,05

Beban (g)	Daya sebar serum nanoliposom minyak biji anggur			Rata-rata ± SD
	R1	R2	R3	
25,79 (tutup)	5,49	5,23	5,48	5,4 ± 0,15
25,79 + 50	5,66	5,45	5,65	5,58 ± 0,12
25,79 + 100	5,91	5,81	5,86	5,86 ± 0,05
25,79 + 150	6,13	6,11	6,18	6,14 ± 0,04
25,79 + 200	6,32	6,31	6,47	6,37 ± 0,09
25,79 + 250	6,56	6,59	6,73	6,63 ± 0,09

**6) Uji Daya Lekat**

Replikasi	Daya lekat formula 1 (detik)	Daya lekat formula 2 (detik)
Replikasi 1	3	4
Replikasi 2	4	4
Replikasi 3	3	3
<b>Rata - rata</b>	<b>3,33 ± 0,58</b>	<b>3,67 ± 0,58</b>

7) Uji Sentrifugasi



## Lampiran 6. COA DPPH dan Perhitungan Uji aktivitas antioksidan

### COA DPPH



3050 Spruce Street, Saint Louis, MO 63103, USA  
Website: [www.sigma-aldrich.com](http://www.sigma-aldrich.com)  
Email USA: [techserv@siol.com](mailto:techserv@siol.com)  
Outside USA: [eurotechserv@siol.com](mailto:eurotechserv@siol.com)

### Certificate of Analysis

**Product Name :** 2,2-Diphenyl-1-picrylhydrazyl  
**Product Number :** D9132-50  
**Batch Number :** 0000152363  
**Source Batch :** 0000149841  
**CAS Number :** 1890-60-4  
**Storage Temperature :** Coolers/Refrigerated  
**Molecular Formula :** C<sub>24</sub>H<sub>14</sub>N<sub>4</sub>O<sub>6</sub>  
**Formula Weight :** 394.32  
**Recommended Releas Date :** Jan 2025  
**Quality Release Date :** 31 Jan 2022

Test	Specification	Result
Appearance (Color) Green to Very Dark Green and Black	Conforms to Requirements	Black
Appearance (Form)	Powder	Powder
Solubility (Color) 50MG/ML, CHCL3	Dark Purple	Dark Purple
Carbon Content	51.5 - 58.1 %	53.0 %
Nitrogen Content	15.8 - 18.8 %	17.5 %
Infrared Spectrum	Conforms to Structure	Conforms
Recommended Retest Period 3 YEARS		

  
Pramod Kadam(PhD) Manager  
Analytical  
Bangalore  
IN

Sigma-Aldrich warrants, that at the time of the quality release or subsequent retest date this product conformed to the information contained in this put. The current Specification sheet may be available at [Sigma-Aldrich.com](http://Sigma-Aldrich.com). For further inquiries, please contact Technical Service. Purchase must determine suitability of the product for its particular use. See reverse side of website or packing slip for additional terms and conditions of sale.

Version Number: 2 Doc: 1075728

Page 1 of 1



### **Pembuatan Larutan DPPH**

Larutan stok DPPH 1.000 ppm yaitu 10 mg DPPH dilarutkan dengan etanol p.a ad 10 mL.

$$\text{Perhitungan ppm} = \frac{\text{massa zat terlarut (mg)}}{\text{volume larutan (L)}} = \frac{10 \text{ mg}}{0,01 \text{ L}} = 1.000 \text{ ppm}$$

Larutan DPPH 20 ppm

$$M1 \times V1 = M2 \times V2$$

$$1.000 \text{ ppm} \times V1 = 20 \text{ ppm} \times 100 \text{ mL}$$

$$V1 = \frac{20 \text{ ppm} \times 100 \text{ mL}}{1.000 \text{ ppm}}$$

$$V1 = 2 \text{ mL}$$

Maka untuk membuat larutan DPPH 20 ppm sebanyak 100 mL dibutuhkan larutan 1.000 ppm sebanyak 2 mL.

### **Pembuatan Larutan Minyak Biji Anggur**

$$\text{Perhitungan massa zat terlarut (mg)} = \text{ppm} \times \text{vol. larutan (L)}$$

$$= 100 \text{ ppm} \times 0,1 \text{ L}$$

$$= 10 \text{ mg}$$

Maka untuk membuat larutan stok minyak biji anggur 100 ppm dalam 100 mL labu takar dibutuhkan minyak biji anggur 10 mg.

Pembuatan larutan dengan seri kadar 2,4,6,8,10 ppm dari larutan stok minyak biji anggur 100 ppm

1. 2 ppm

$$M1 \times V1 = M2 \times V2$$

$$100 \text{ ppm} \times V1 = 2 \text{ ppm} \times 10 \text{ mL}$$

$$V1 = 0,2 \text{ mL ad } 10 \text{ mL}$$

2. 4 ppm

$$M1 \times V1 = M2 \times V2$$

$$100 \text{ ppm} \times V1 = 4 \text{ ppm} \times 10 \text{ mL}$$

$$V1 = 0,4 \text{ mL ad } 10 \text{ mL}$$

3. 6 ppm

$$M1 \times V1 = M2 \times V2$$

$$100 \text{ ppm} \times V1 = 6 \text{ ppm} \times 10 \text{ mL}$$

$$V1 = 0,6 \text{ mL ad } 10 \text{ mL}$$

4. 8 ppm

$$M1 \times V1 = M2 \times V2$$

$$100 \text{ ppm} \times V1 = 8 \text{ ppm} \times 10 \text{ mL}$$

$$V1 = 0,8 \text{ mL ad } 10 \text{ mL}$$

5. 10 ppm

$$M1 \times V1 = M2 \times V2$$

$$100 \text{ ppm} \times V1 = 10 \text{ ppm} \times 10 \text{ mL}$$

$$V1 = 1 \text{ mL ad } 10 \text{ mL}$$

### **Pembuatan Larutan Vitamin C**

$$\begin{aligned} \text{Perhitungan massa zat terlarut (mg)} &= \text{ppm} \times \text{vol. larutan (L)} \\ &= 100 \text{ ppm} \times 0,1 \text{ L} \\ &= 10 \text{ mg} \end{aligned}$$

Maka untuk membuat larutan stok vitamin C 100 ppm dalam 100 mL labu takar dibutuhkan vitamin C 10 mg.

Pembuatan larutan dengan seri kadar 2,4,6,8,10 ppm dari larutan stok vitamin C 100 ppm

1. 2 ppm

$$M1 \times V1 = M2 \times V2$$

$$100 \text{ ppm} \times V1 = 2 \text{ ppm} \times 10 \text{ mL}$$

$$V1 = 0,2 \text{ mL ad } 10 \text{ mL}$$

2. 4 ppm

$$M1 \times V1 = M2 \times V2$$

$$100 \text{ ppm} \times V1 = 4 \text{ ppm} \times 10 \text{ mL}$$

$$V1 = 0,4 \text{ mL ad } 10 \text{ mL}$$

3. 6 ppm

$$M1 \times V1 = M2 \times V2$$

$$100 \text{ ppm} \times V1 = 6 \text{ ppm} \times 10 \text{ mL}$$

$$V1 = 0,6 \text{ mL ad } 10 \text{ mL}$$

4. 8 ppm

$$M1 \times V1 = M2 \times V2$$

$$100 \text{ ppm} \times V1 = 8 \text{ ppm} \times 10 \text{ mL}$$

$$V1 = 0,8 \text{ mL ad } 10 \text{ mL}$$

5. 10 ppm

$$M1 \times V1 = M2 \times V2$$

$$100 \text{ ppm} \times V1 = 10 \text{ ppm} \times 10 \text{ mL}$$

$$V1 = 1 \text{ mL ad } 10 \text{ mL}$$

## **Pembuatan Larutan Serum Nanoliposom Minyak Biji Anggur**

Perhitungan massa zat terlarut (mg) = ppm x vol. larutan (L)

$$= 1.000 \text{ ppm} \times 0,1 \text{ L}$$

$$= 100 \text{ mg}$$

Maka untuk membuat larutan stok serum 1.000 ppm dalam 100 mL labu takar dibutuhkan serum 100 mg.

Pembuatan larutan dengan seri kadar 20,40,60,80,100 ppm dari larutan stok serum nanoliposom 1.000 ppm

1. 20 ppm

$$M1 \times V1 = M2 \times V2$$

$$1.000 \text{ ppm} \times V1 = 20 \text{ ppm} \times 10 \text{ mL}$$

$$V1 = 0,2 \text{ mL ad } 10 \text{ mL}$$

2. 40 ppm

$$M1 \times V1 = M2 \times V2$$

$$1.000 \text{ ppm} \times V1 = 40 \text{ ppm} \times 10 \text{ mL}$$

$$V1 = 0,4 \text{ mL ad } 10 \text{ mL}$$

3. 60 ppm

$$M1 \times V1 = M2 \times V2$$

$$1.000 \text{ ppm} \times V1 = 60 \text{ ppm} \times 10 \text{ mL}$$

$$V1 = 0,6 \text{ mL ad } 10 \text{ mL}$$

4. 80 ppm

$$M1 \times V1 = M2 \times V2$$

$$1.000 \text{ ppm} \times V1 = 80 \text{ ppm} \times 10 \text{ mL}$$

$$V1 = 0,8 \text{ mL ad } 10 \text{ mL}$$

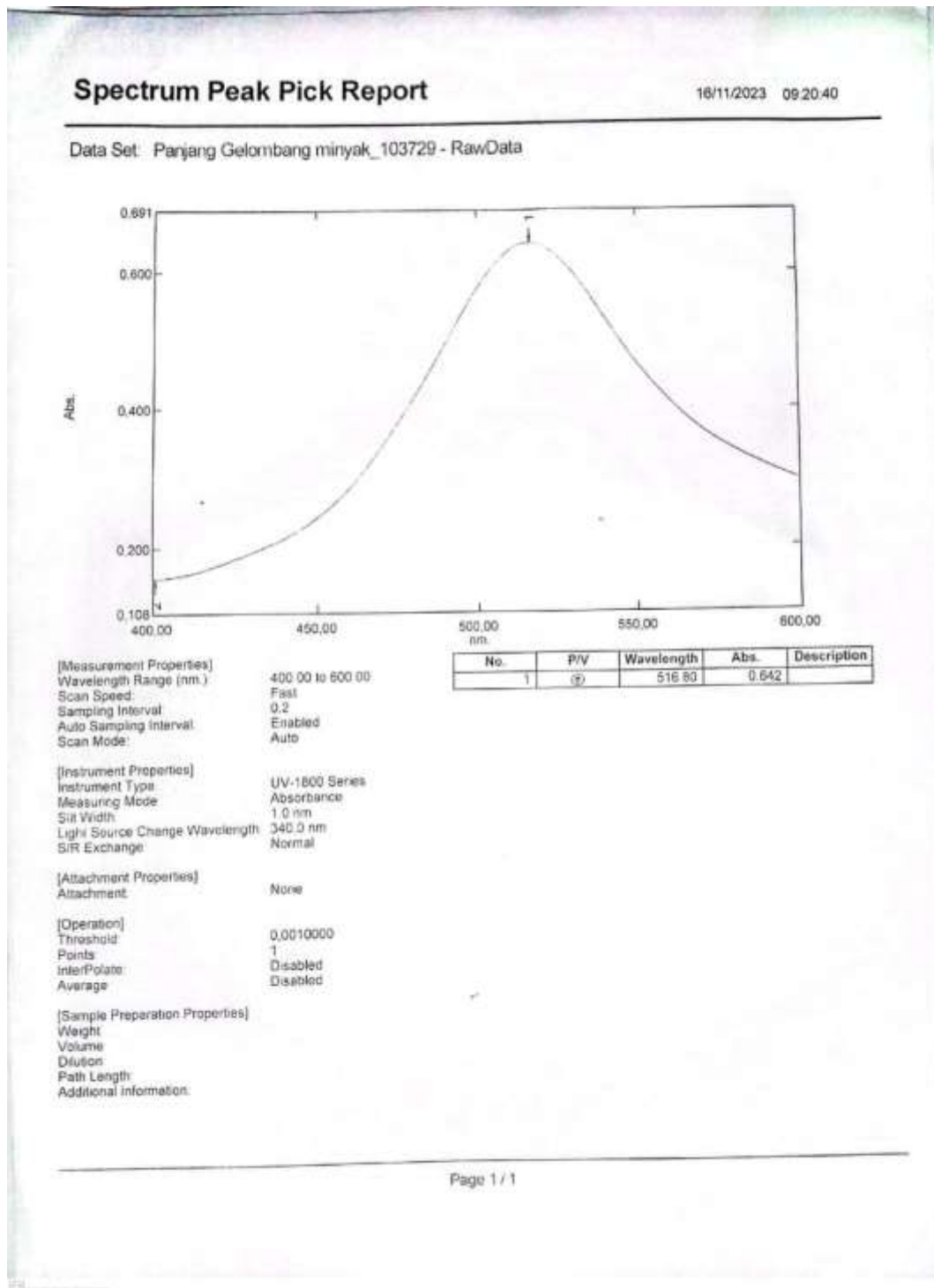
5. 100 ppm

$$M1 \times V1 = M2 \times V2$$

$$1.000 \text{ ppm} \times V1 = 100 \text{ ppm} \times 10 \text{ mL}$$

$$V1 = 1 \text{ mL ad } 10 \text{ mL}$$

## Lampiran 7. Panjang Gelombang Maksimal DPPH





## Lampiran 8. Operating Time DPPH

**Kinetics Data Print Report** 16/11/2023 09:22:40

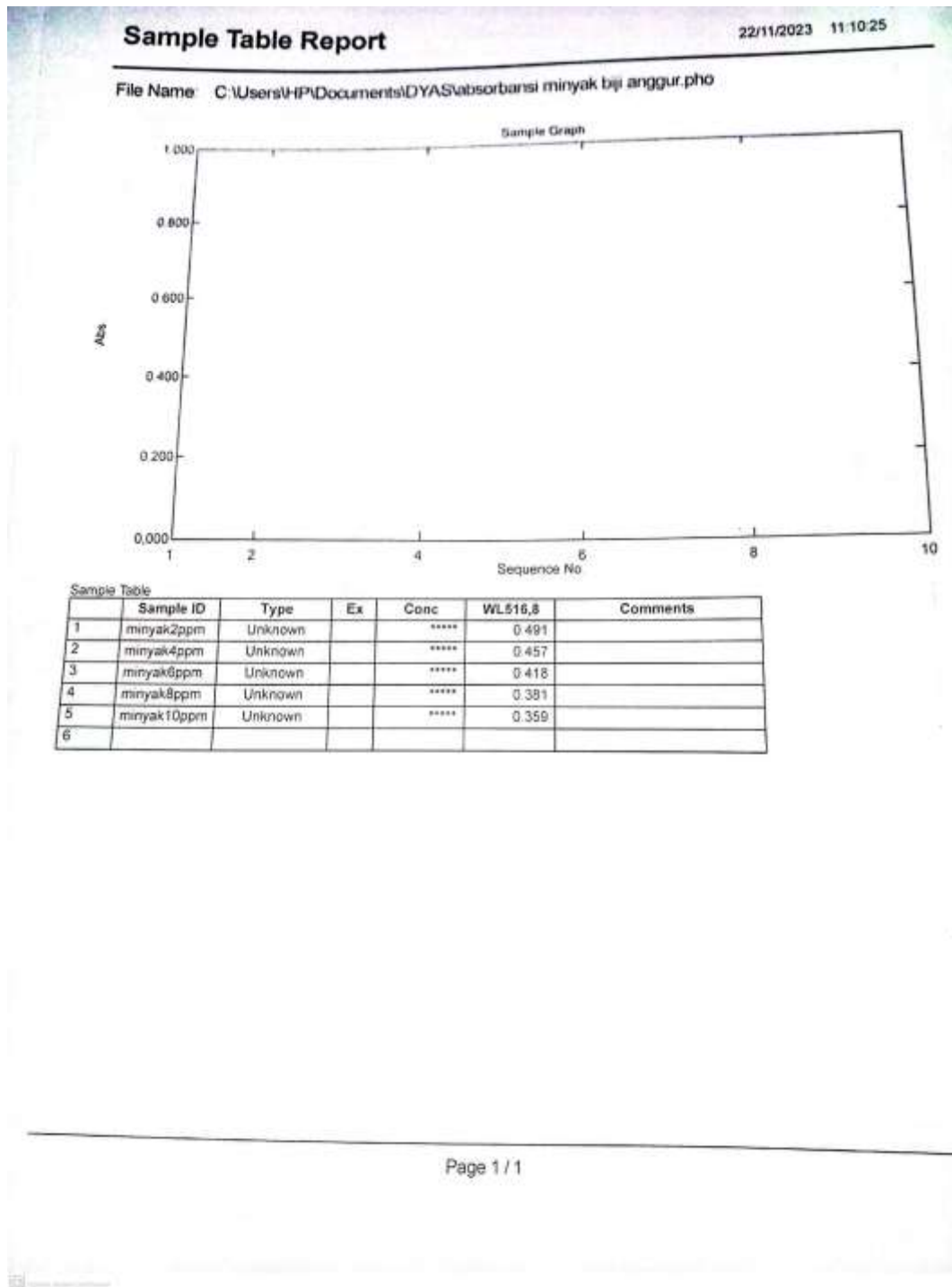
---

Time ( Minute )	RawData ...
1 000	0.630
2 000	0.630
3 000	0.629
4 000	0.629
5 000	0.629
6 000	0.629
7 000	0.629
8 000	0.629
9 000	0.629
10 000	0.629
11 000	0.629
12 000	0.629
13 000	0.629
14 000	0.629
15 000	0.629
16 000	0.629
17 000	0.628
18 000	0.628
19 000	0.628
20 000	0.628
21 000	0.628
22 000	0.628
23 000	0.628
24 000	0.628
25 000	0.627
26 000	0.627
27 000	0.627
28 000	0.627
29 000	0.627
30 000	0.626

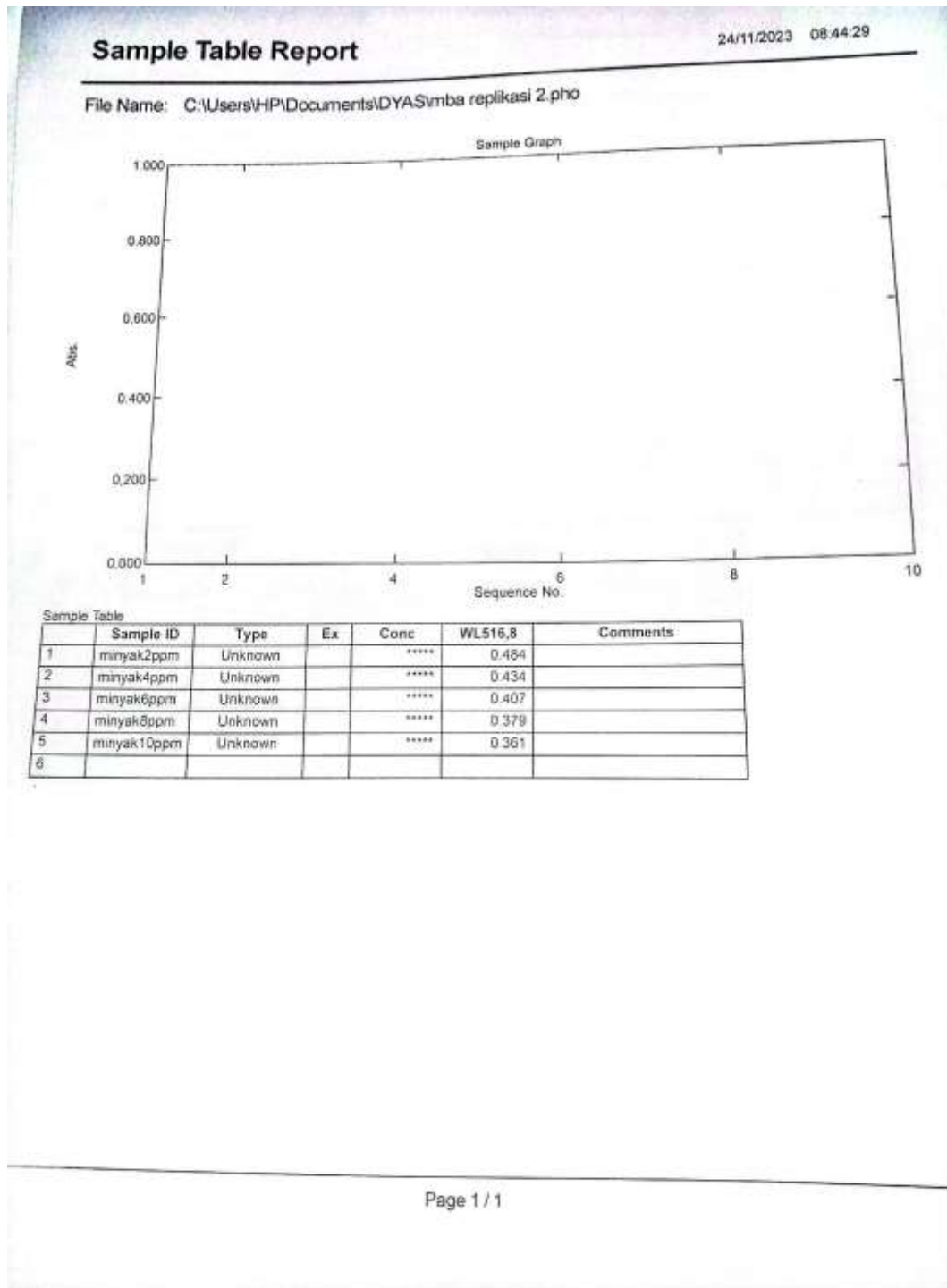
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Page 1/1

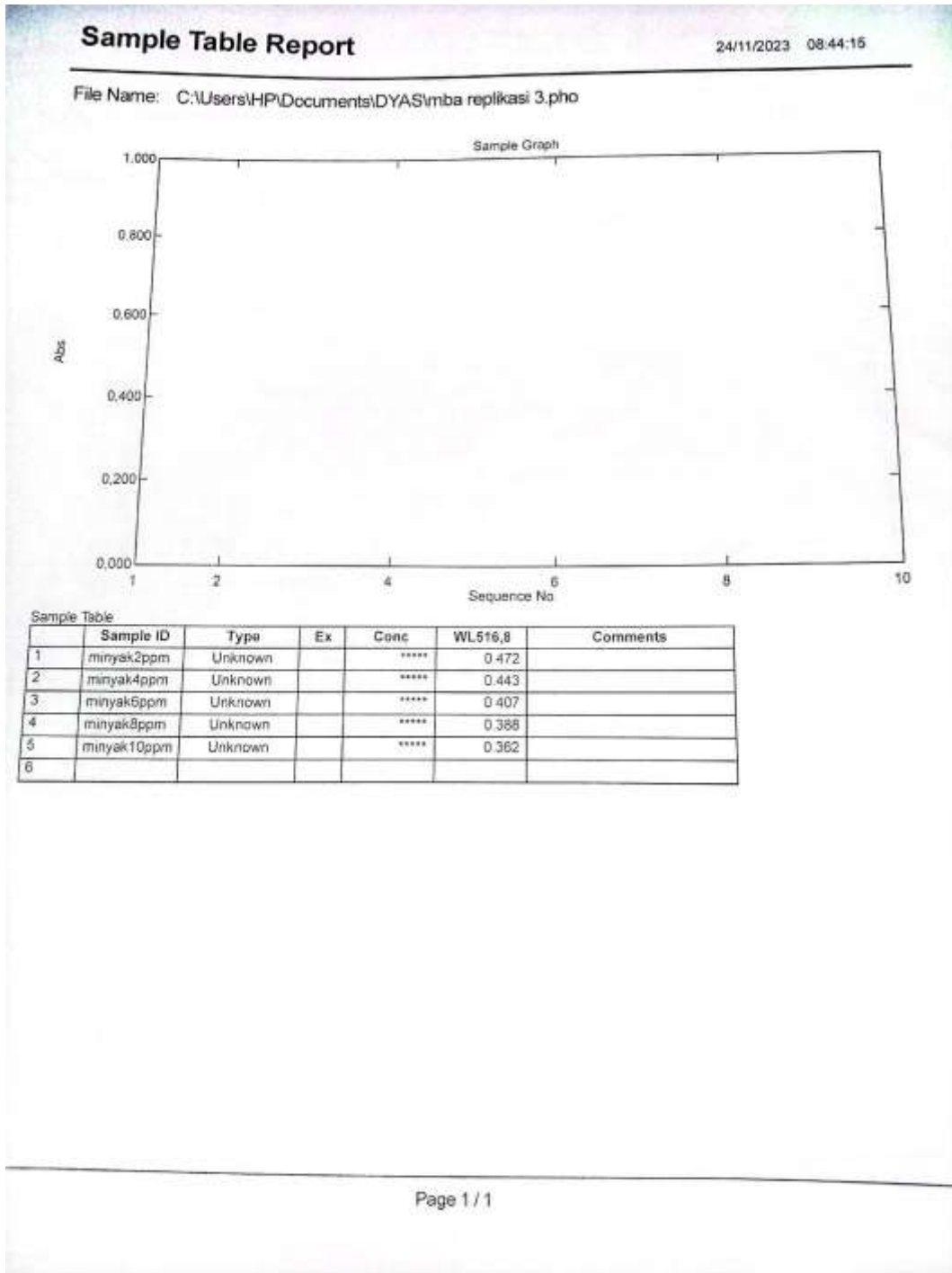
## Lampiran 9. absorbansi Minyak Biji Anggur Replikasi 1



## Lampiran 10. Absorbansi Minyak Biji Anggur Replikasi 2



### Lampiran 11. Absorbansi Minyak Biji Anggur Replikasi 3

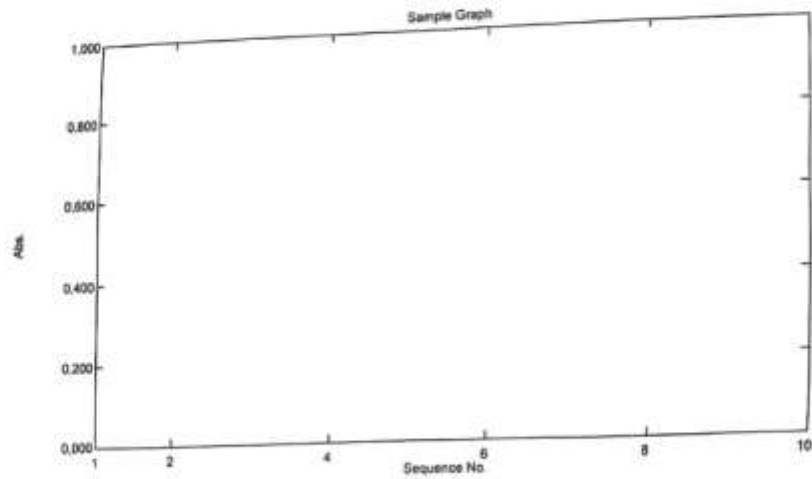


## Lampiran 12. absorbansi Nanoliposom Replikasi 1

### Sample Table Report

22/11/2023 11:20:15

File Name C:\Users\HP\Documents\DYAS\Nanoliposom R1.pho



Sample Table

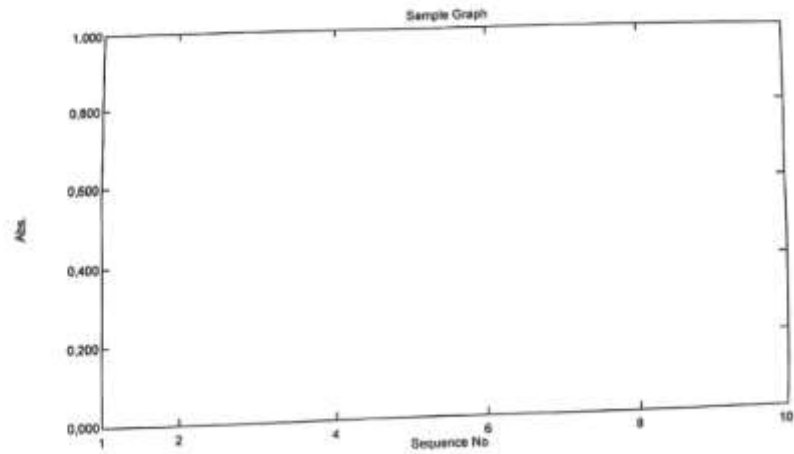
	Sample ID	Type	Ex	Conc	WL516,8	Comments
1	sampel20ppm	Unknown		*****	0,275	
2	sampel40ppm	Unknown		*****	0,260	
3	sampel60ppm	Unknown		*****	0,244	
4	sampel80ppm	Unknown		*****	0,224	
5	sampel100ppm	Unknown		*****	0,209	
6						

## Lampiran 13. absorbansi Nanoliposom Replikasi 2

### Sample Table Report

22/11/2023 12:33:20

File Name C:\Users\HP\Documents\DYAS\Nanoliposom R2.pho



Sample Table

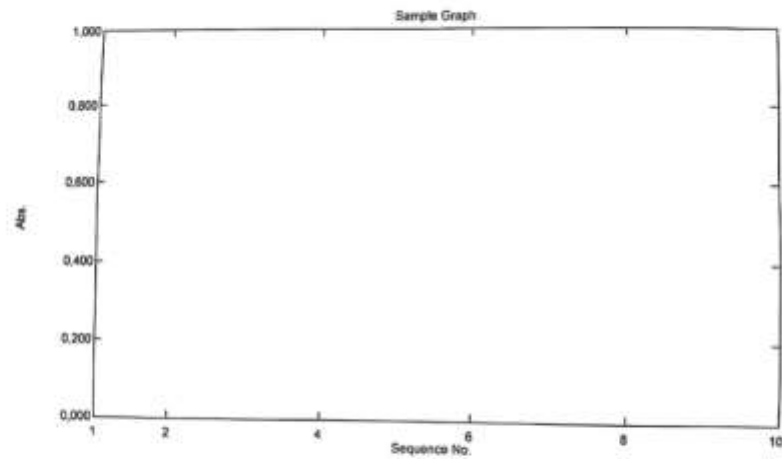
	Sample ID	Type	Ex	Conc	WLS16,8	Comments
1	sampel20ppm	Unknown		*****	0,270	
2	sampel40ppm	Unknown		*****	0,255	
3	sampel60ppm	Unknown		*****	0,243	
4	sampel80ppm	Unknown		*****	0,221	
5	sampel100ppm	Unknown		*****	0,209	
6						

## Lampiran 14. Absorbansi Nanoliposom Replikasi 3

### Sample Table Report

22/11/2023 14:50:34

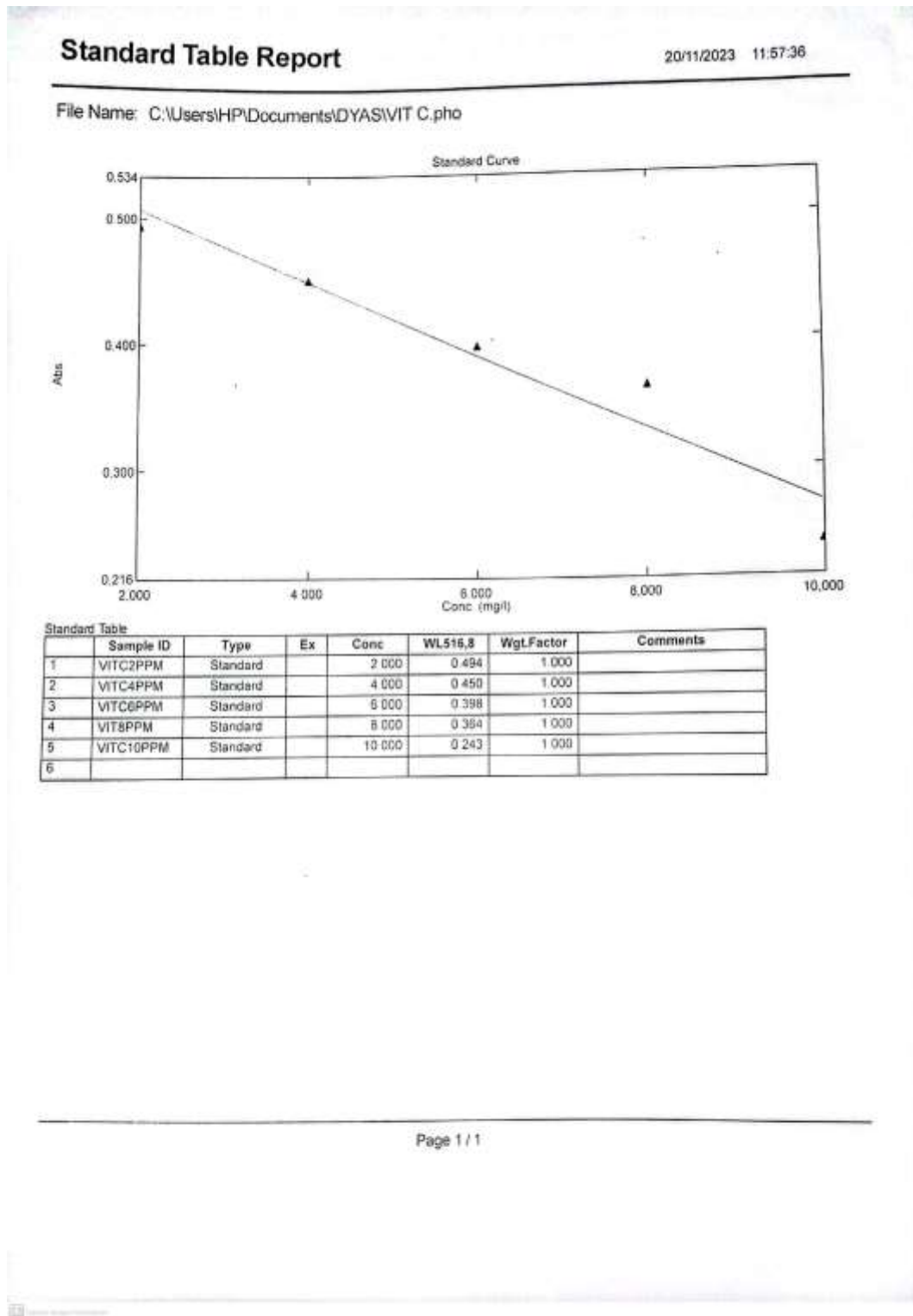
File Name C:\Users\HP\Documents\DYAS\Nanoliposom R3.pho



Sample Table

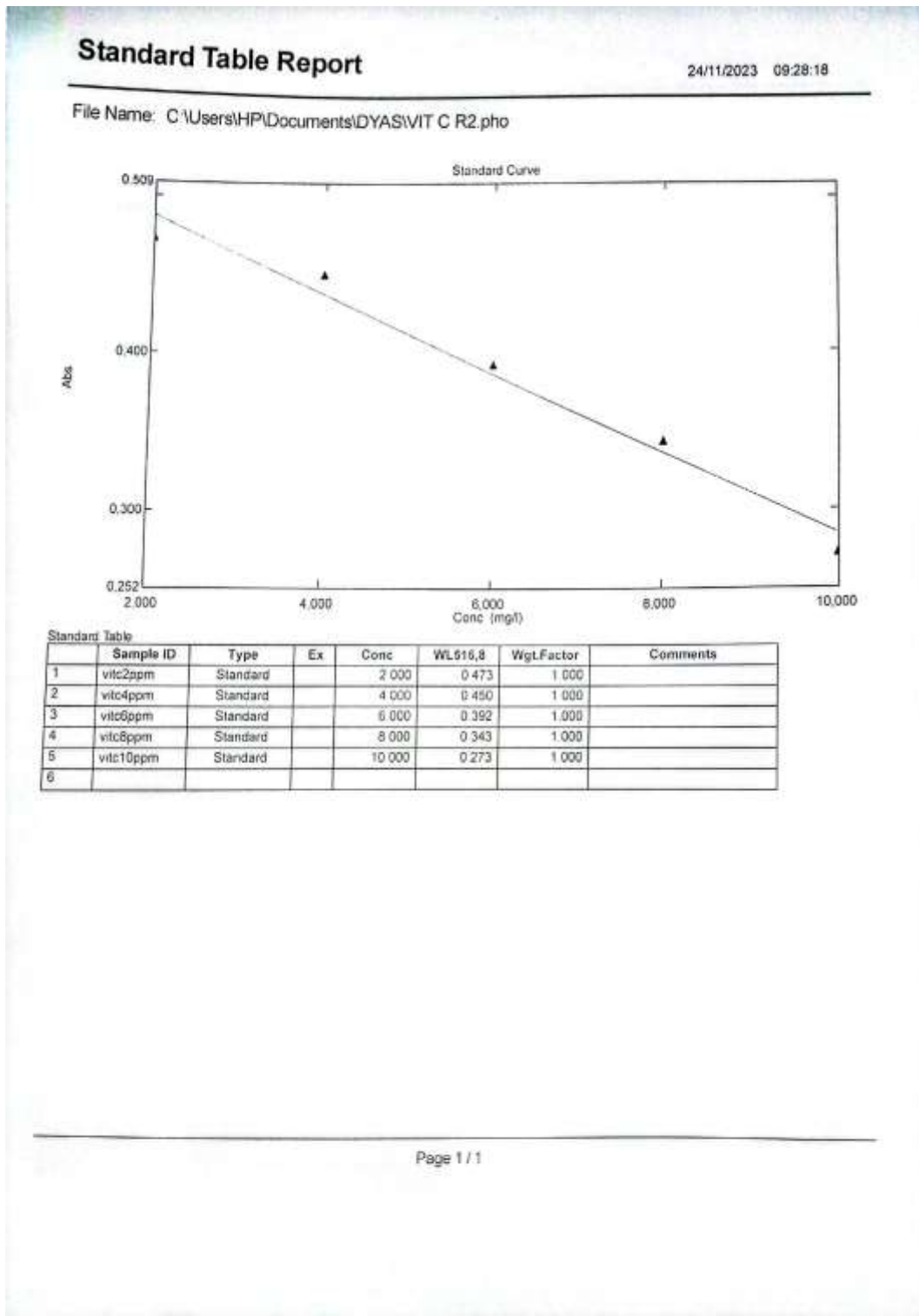
	Sample ID	Type	Ex	Conc	WL516,8	Comments
1	sampel20ppm	Unknown		*****	0,268	
2	sampel40ppm	Unknown		*****	0,249	
3	sampel60ppm	Unknown		*****	0,238	
4	sampel80ppm	Unknown		*****	0,220	
5	sampel100ppm	Unknown		*****	0,205	
6						

## Lampiran 15. Absorbansi Vitamin C Replikasi 2

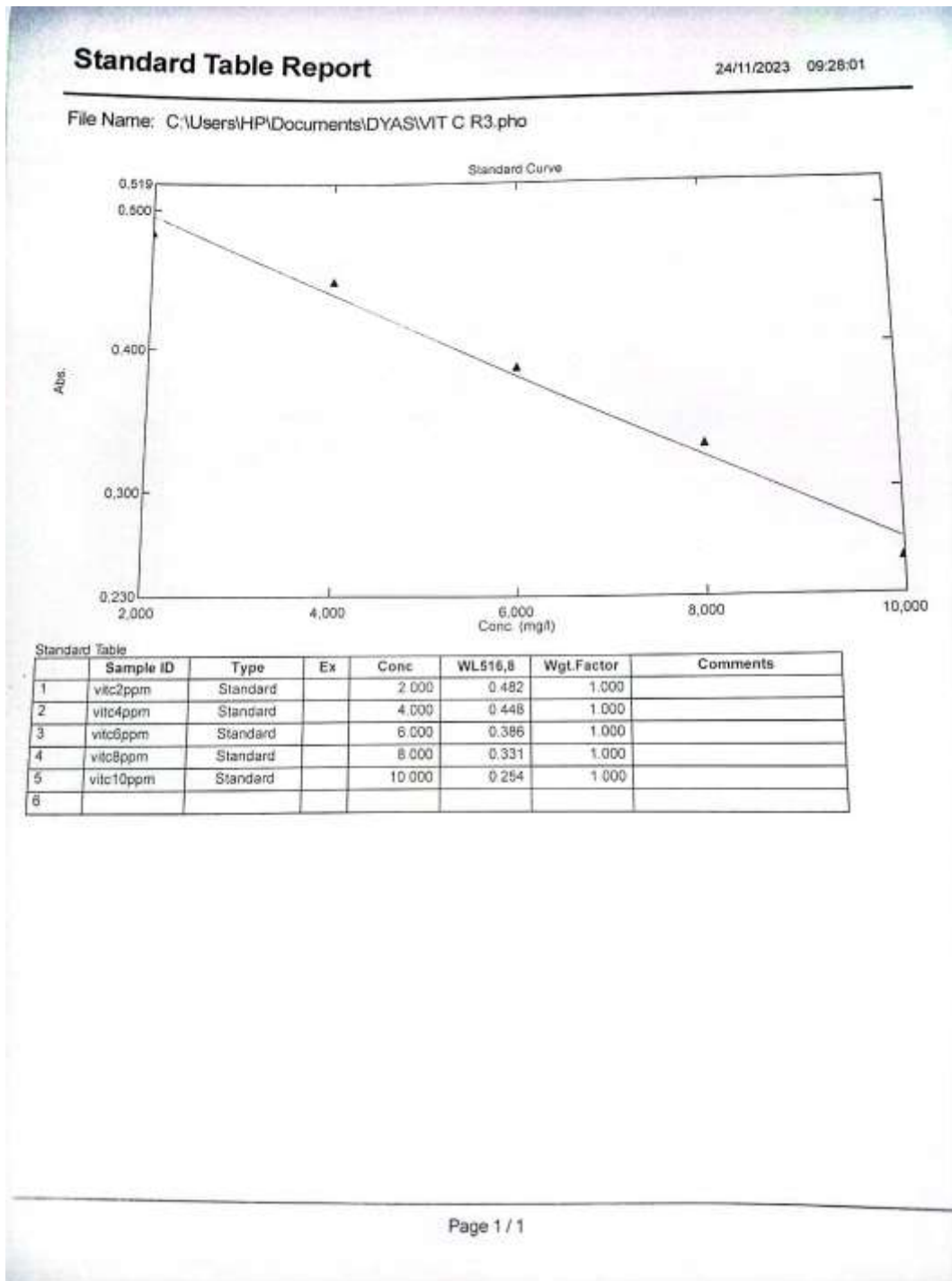




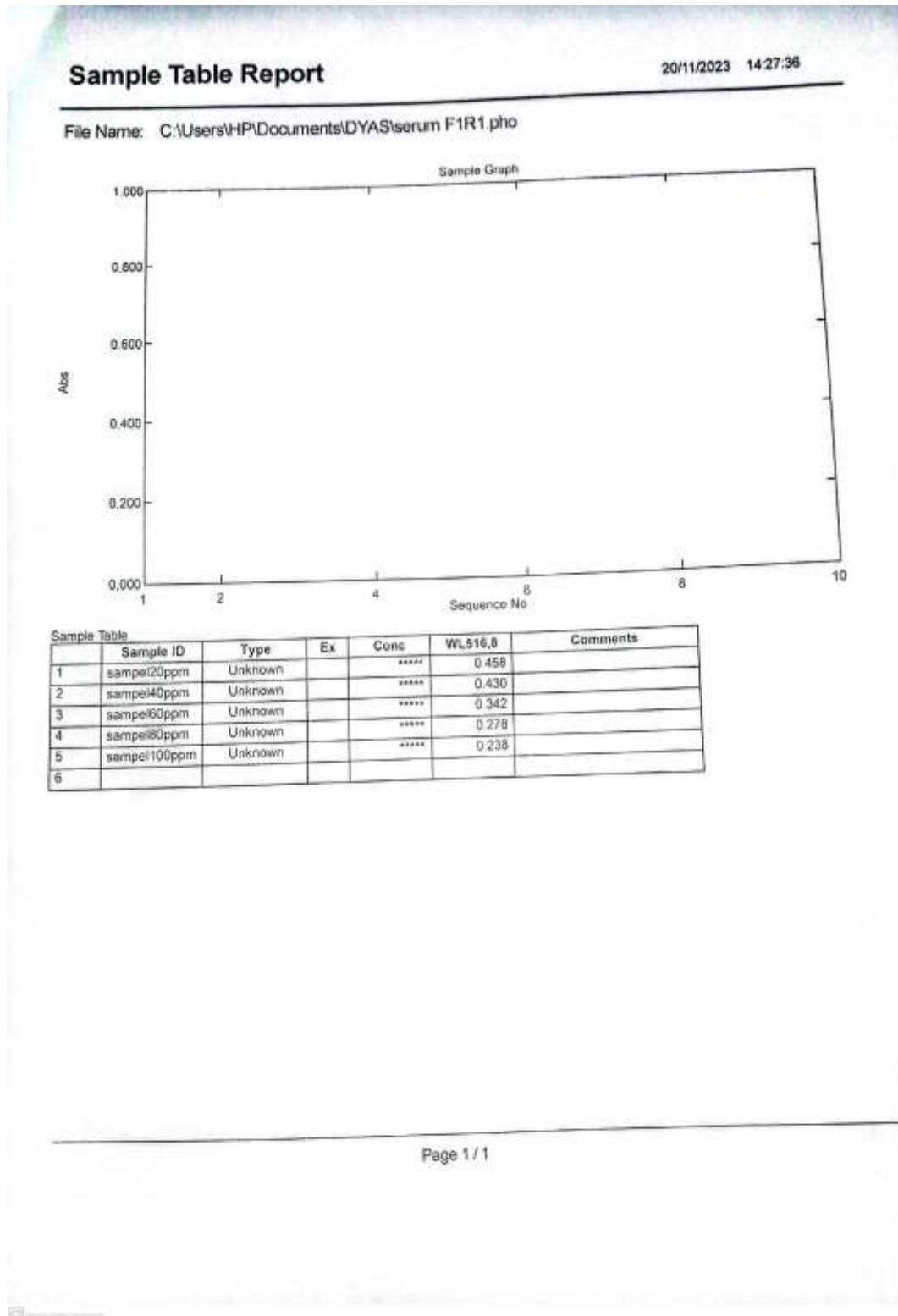
## Lampiran 16. Absorbansi Vitamin C Replikasi 2



### Lampiran 17. Absorbansi Vitamin C Replikasi 3



## Lampiran 18. Absorbansi Serum Nanoliposom Minyak Biji Anggur Formula 1 Replikasi 1

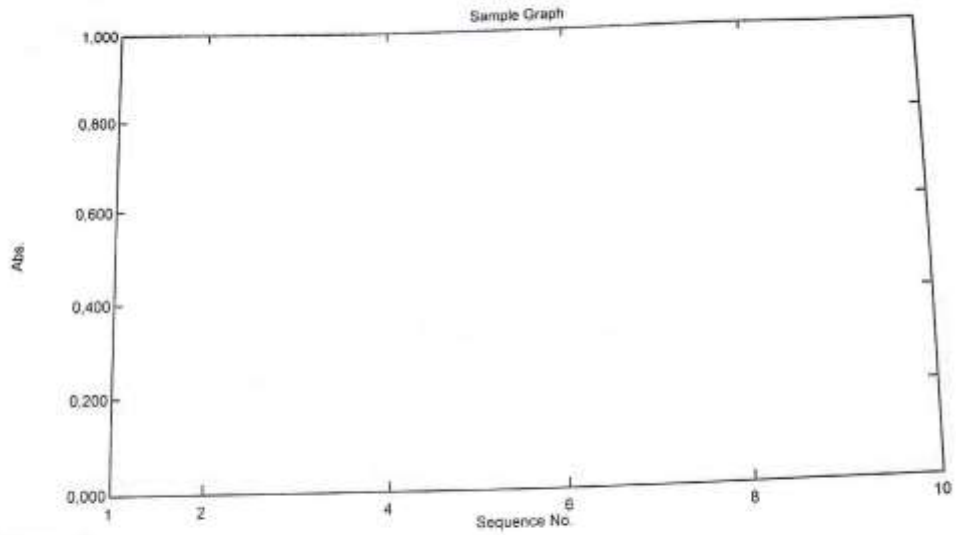


**Lampiran 19. Absorbansi Serum Nanoliposom Minyak Biji Anggur Formula 1 Replikasi 2**

**Sample Table Report**

21/11/2023 11:36:04

File Name: C:\Users\HP\Documents\DYAS\serumF1R2.pho



Sample Table

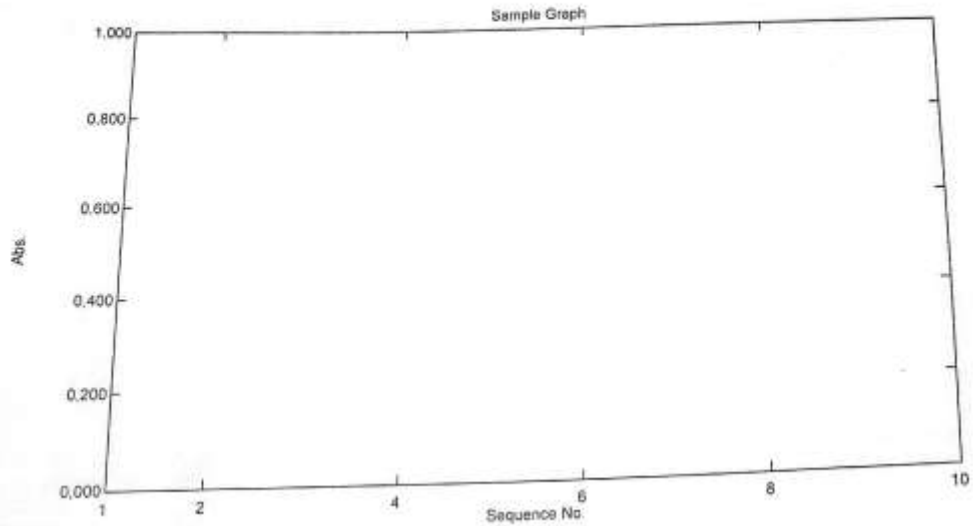
	Sample ID	Type	Ex	Conc	WL516,8	Comments
1	sample20ppm	Unknown		*****	0.424	
2	sample40ppm	Unknown		*****	0.373	
3	sample60ppm	Unknown		*****	0.344	
4	sample80ppm	Unknown		*****	0.268	
5	sample100ppm	Unknown		*****	0.232	
6						

**Lampiran 20. Absorbansi Serum Nanoliposom Minyak Biji Anggur Formula 1 Replikasi 3**

**Sample Table Report**

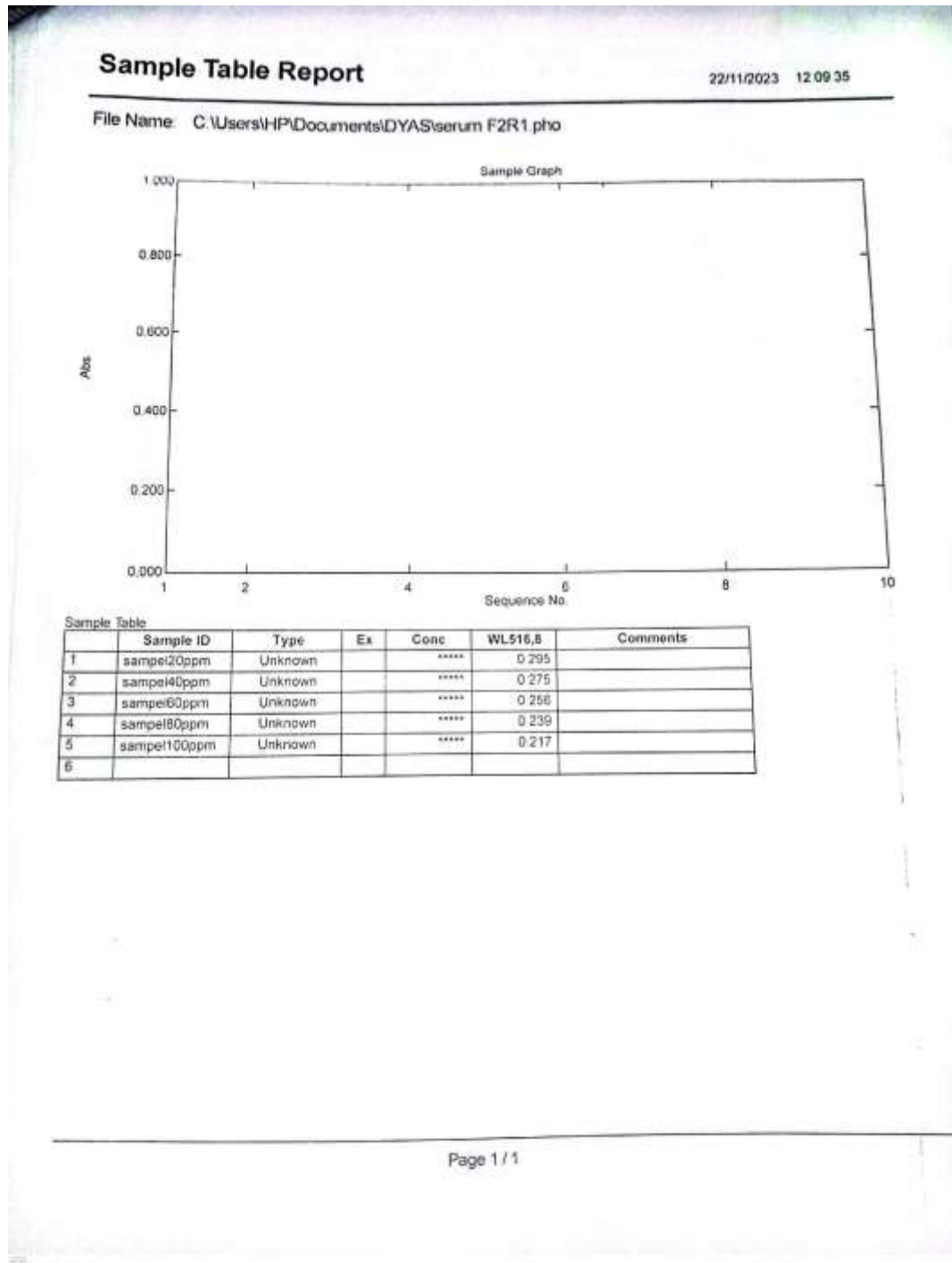
21/11/2023 11:37:02

File Name: C:\Users\HP\Documents\DYAS\SerumF1R3.pho

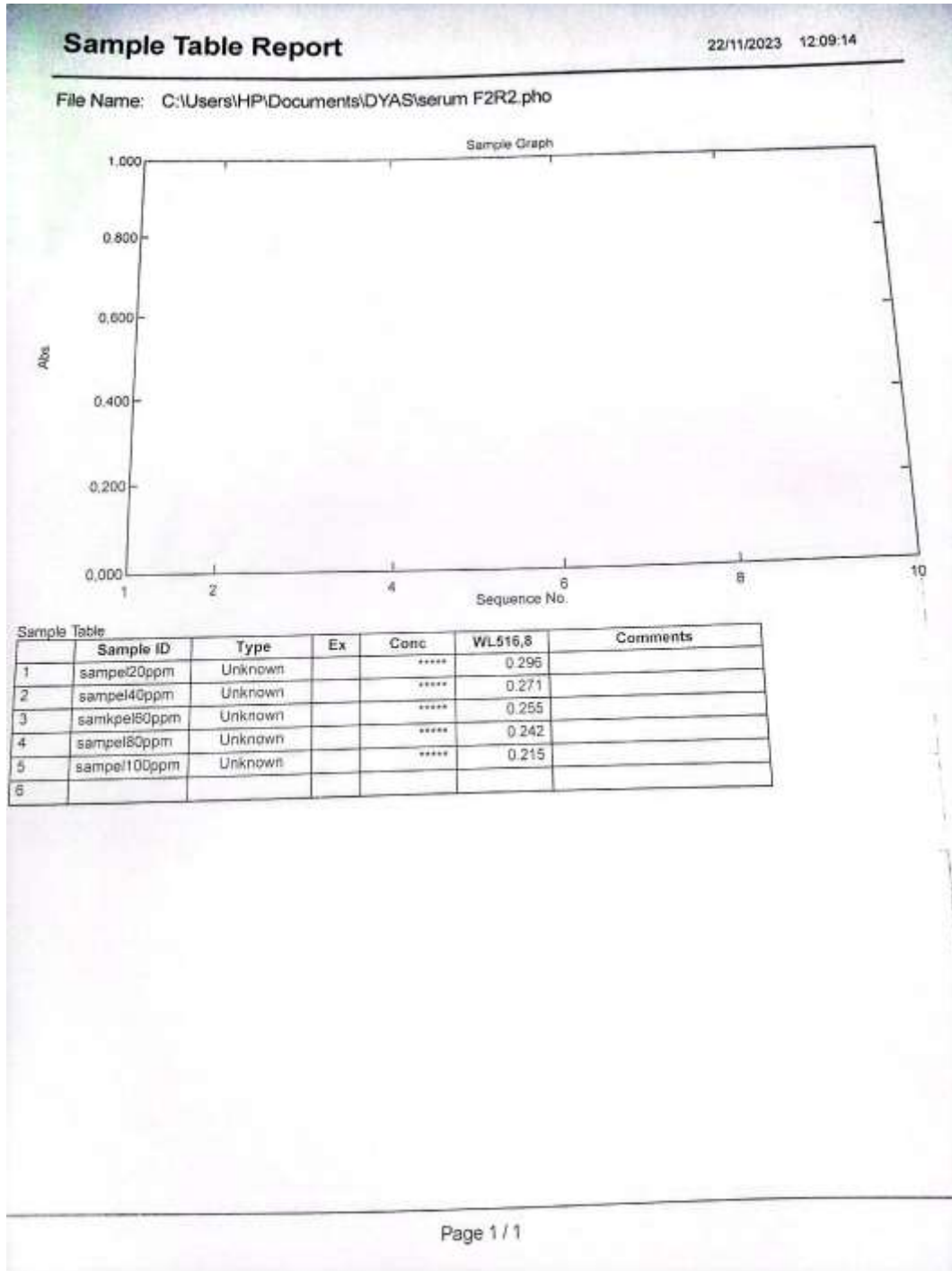


Sample Table	Sample ID	Type	Ex	Conc	WL516,8	Comments
1	sample20ppm	Unknown		*****	0.429	
2	sample40ppm	Unknown		*****	0.395	
3	sample60ppm	Unknown		*****	0.362	
4	sample80ppm	Unknown		*****	0.287	
5	sample100ppm	Unknown		*****	0.228	
6						

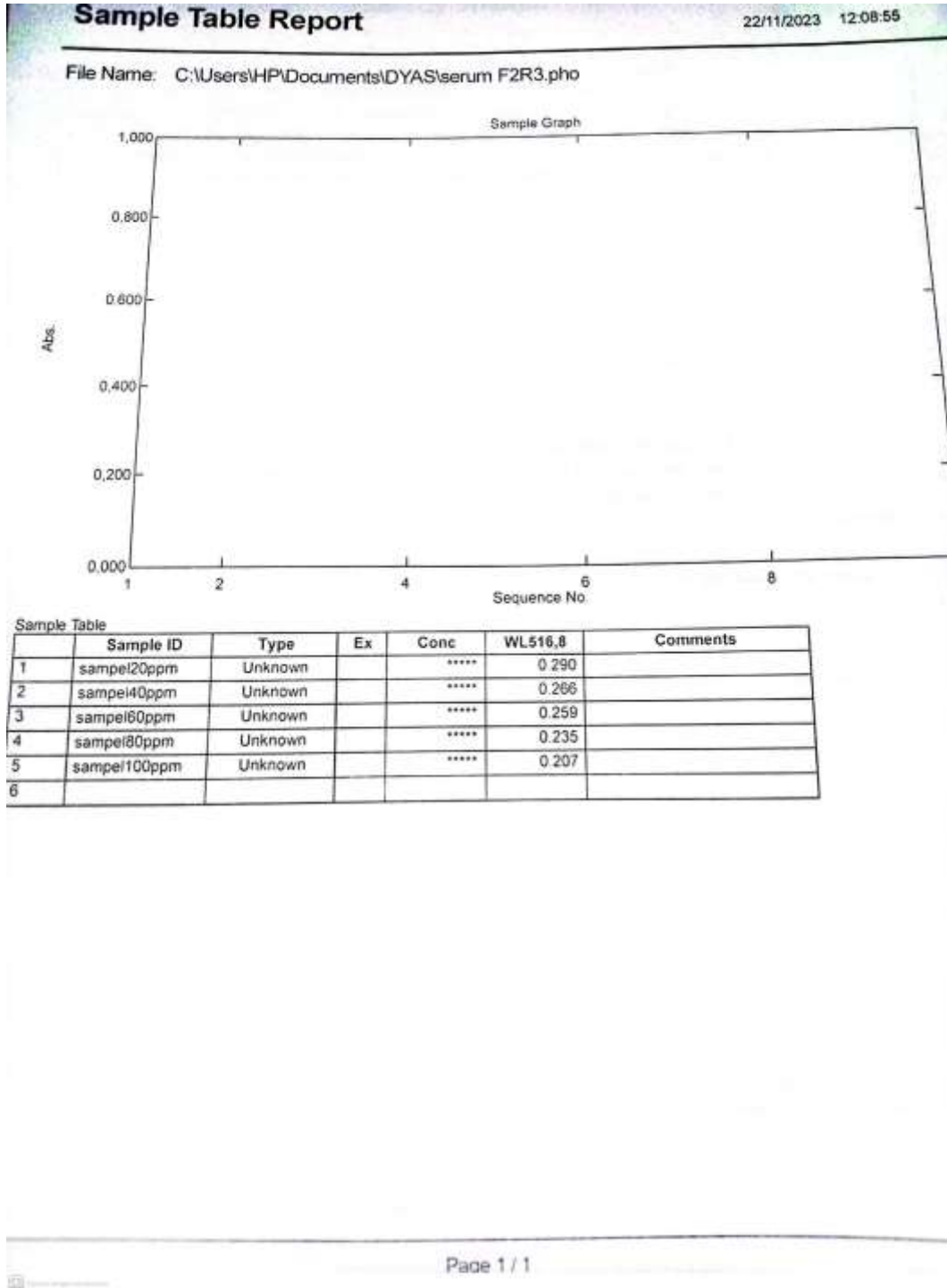
## Lampiran 21. Absorbansi Serum Nanoliposom Minyak Biji Anggur Formula 2 Replikasi 1



## Lampiran 22. Absorbansi Serum Nanoliposom Minyak Biji Anggur Formula 2 Replikasi 2



**Lampiran 23. Absorbansi Serum Nanoliposom Minyak Biji Anggur Formula 2 Replikasi 3**

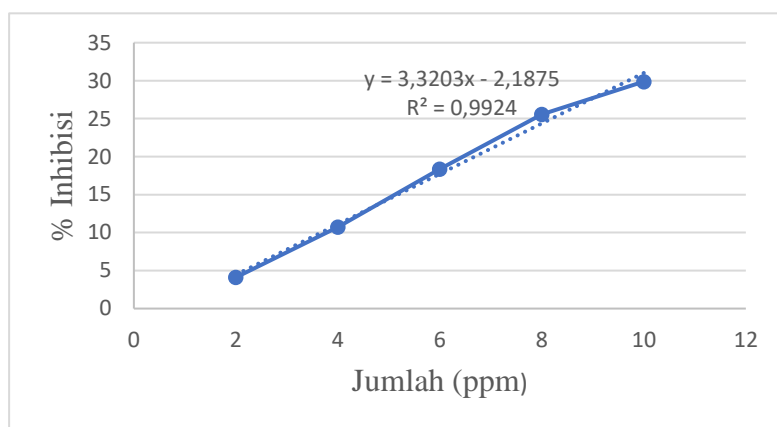




## Lampiran 24. Perhitungan % Inhibisi dan IC50

### 1) Minyak Biji Anggur Replikasi 1

Jumlah	Blangko	Absorbansi	% Inhibisi	Persamaan garis dan nilai IC <sub>50</sub>
2 ppm	0,512	0,491	4,1015625	$y = 3,3203x - 2,1875$ $R^2 = 0,9924$ $IC_{50} = 15,71771$
4 ppm	0,512	0,457	10,7421875	
6 ppm	0,512	0,418	18,359375	
8 ppm	0,512	0,381	25,5859375	
10 ppm	0,512	0,359	29,8828125	



Perhitungan % inhibisi:

a) Jumlah 2 ppm

$$\begin{aligned} \% \text{ inhibisi} &= \frac{(\text{Blangko} - \text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512 - 0,491)}{0,491} \times 100\% \\ &= 4,1015625 \end{aligned}$$

b) Jumlah 4 ppm

$$\begin{aligned} \% \text{ inhibisi} &= \frac{(\text{Blangko} - \text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512 - 0,457)}{0,457} \times 100\% \\ &= 10,7421875 \end{aligned}$$

c) Jumlah 6 ppm

$$\begin{aligned} \% \text{ inhibisi} &= \frac{(\text{Blangko} - \text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512 - 0,418)}{0,418} \times 100\% \\ &= 18,359375 \end{aligned}$$

d) Jumlah 8 ppm

$$\begin{aligned} \% \text{ inhibisi} &= \frac{(\text{Blangko} - \text{absorbansi})}{\text{absorbansi}} \times 100\% \end{aligned}$$

$$= \frac{(0,512-0,381)}{0,512} \times 100\%$$

$$= 25,5859375$$

e) Jumlah 10 ppm

$$\% \text{ inhibisi} = \frac{(\text{Blangko}-\text{absorbansi})}{\text{absorbansi}} \times 100\%$$

$$= \frac{(0,512-0,359)}{0,512} \times 100\%$$

$$= 29,8828125$$

Perhitungan nilai IC50

$$y=3,3203 x - 2,875$$

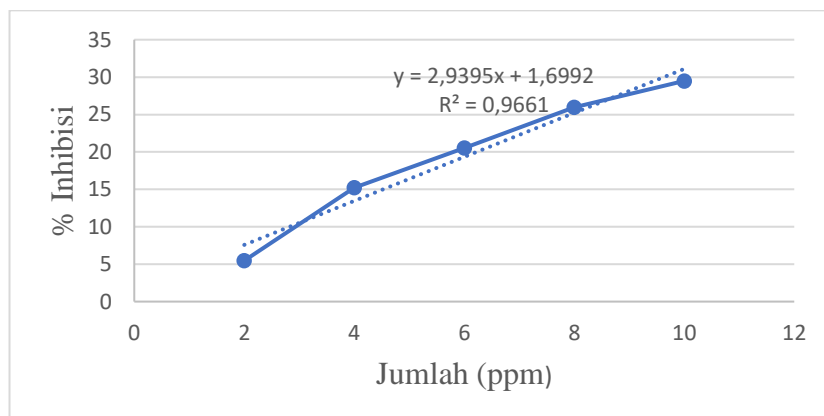
$$50 = 3,3203x - 2,875$$

$$x = \frac{(50+2,2875)}{3,3203}$$

$$x = 15.71771$$

## 2) Minyak Biji Anggur Replikasi 2

Jumlah	Blangko	Absorbansi	% Inhibisi	Persamaan garis dan nilai IC <sub>50</sub>
2 ppm	0,512	0,484	5,46875	$y=2,9395x+1,6992$ $R^2 = 0,9661$ $IC_{50} = 16,43164$
4 ppm	0,512	0,434	15,234375	
6 ppm	0,512	0,407	20,5078125	
8 ppm	0,512	0,379	25,9765625	
10 ppm	0,512	0,361	29,4921875	



Perhitungan % inhibisi:

a) Jumlah 2 ppm

$$\begin{aligned}\% \text{ inhibisi} &= \frac{(\text{Blangko}-\text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512-0,484)}{0,512} \times 100\% \\ &= 5,46875\end{aligned}$$

b) Jumlah 4 ppm

$$\begin{aligned}\% \text{ inhibisi} &= \frac{(\text{Blangko}-\text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512-0,434)}{0,512} \times 100\% \\ &= 15,234375\end{aligned}$$

c) Jumlah 6 ppm

$$\begin{aligned}\% \text{ inhibisi} &= \frac{(\text{Blangko}-\text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512-0,407)}{0,512} \times 100\% \\ &= 20,5078125\end{aligned}$$

d) Jumlah 8 ppm

$$\begin{aligned}\% \text{ inhibisi} &= \frac{(\text{Blangko}-\text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512-0,379)}{0,512} \times 100\% \\ &= 25,9765625\end{aligned}$$

e) Jumlah 10 ppm

$$\begin{aligned}\% \text{ inhibisi} &= \frac{(\text{Blangko}-\text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512-0,361)}{0,512} \times 100\% \\ &= 29,4921875\end{aligned}$$

Perhitungan nilai IC50

$$y=2,9395x+1,6992$$

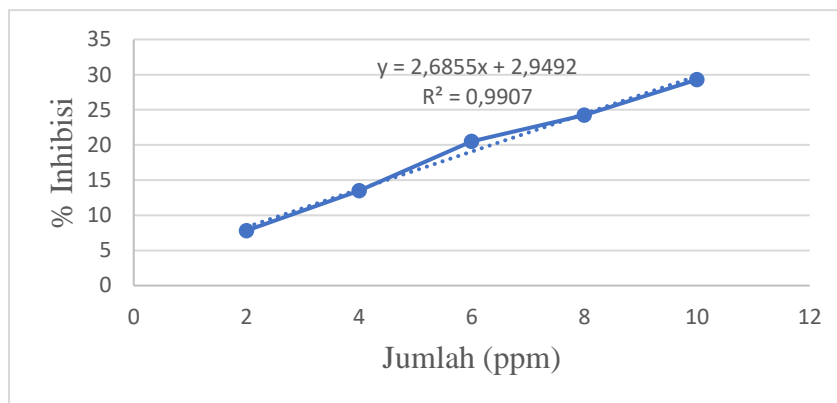
$$50 = 2,9395x+1,6992$$

$$x = \frac{(50+1,6992)}{2,9395}$$

$$x = 16,43164$$

### 3) Minyak Biji Anggur Replikasi 3

Jumlah	Blangko	Absorbansi	% Inhibisi	Persamaan garis dan nilai IC <sub>50</sub>
2 ppm	0,512	0,472	7,8125	$y = 2,6855x + 2,9492$ $R^2 = 0,9907$ $IC_{50} = 17,52031$
4 ppm	0,512	0,443	13,4765625	
6 ppm	0,512	0,407	20,5078125	
8 ppm	0,512	0,388	24,21875	
10 ppm	0,512	0,362	29,296875	



Perhitungan % inhibisi:

a) Jumlah 2 ppm

$$\begin{aligned} \% \text{ inhibisi} &= \frac{(\text{Blangko} - \text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512 - 0,472)}{0,472} \times 100\% \\ &= 7,8125 \end{aligned}$$

b) Jumlah 4 ppm

$$\begin{aligned} \% \text{ inhibisi} &= \frac{(\text{Blangko} - \text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512 - 0,443)}{0,443} \times 100\% \\ &= 13,4765625 \end{aligned}$$

c) Jumlah 6 ppm

$$\begin{aligned} \% \text{ inhibisi} &= \frac{(\text{Blangko} - \text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512 - 0,407)}{0,407} \times 100\% \\ &= 20,5078125 \end{aligned}$$

d) Jumlah 8 ppm

$$\begin{aligned} \% \text{ inhibisi} &= \frac{(\text{Blangko} - \text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512 - 0,388)}{0,388} \times 100\% \end{aligned}$$

$$= 24,21875$$

e) Jumlah 10 ppm

$$\begin{aligned} \% \text{ inhibisi} &= \frac{(\text{Blangko} - \text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512 - 0,362)}{0,512} \times 100\% \\ &= 29,296875 \end{aligned}$$

Perhitungan nilai IC<sub>50</sub>

$$y = 2,6855x + 2,9492$$

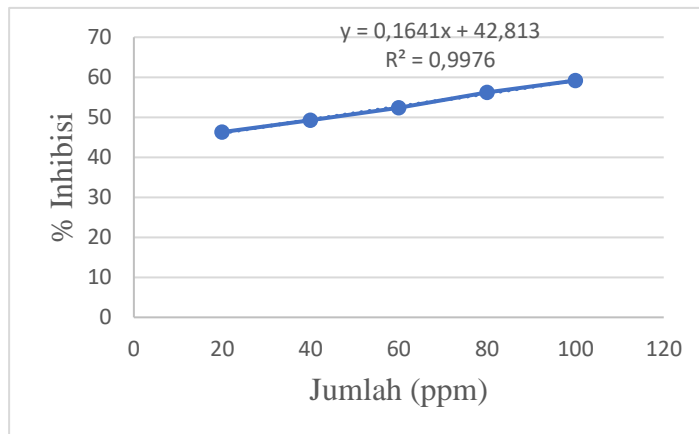
$$50 = 2,6855x + 2,9492$$

$$x = \frac{(50 + 2,9492)}{2,9395}$$

$$x = 17,52031$$

#### 4) Nanoliposom Minyak Biji Anggur Replikasi 1

Jumlah	Blangko	Absorbansi	% Inhibisi	Persamaan garis dan nilai IC <sub>50</sub>
20 ppm	0,512	0,275	46,2890625	$y = 0,1641x + 42,813$ $R^2 = 0,9976$ $IC_{50} = 43,79647$
40 ppm	0,512	0,260	49,21875	
60 ppm	0,512	0,244	52,34375	
80 ppm	0,512	0,224	56,25	
100 ppm	0,512	0,209	59,1796875	



Perhitungan % inhibisi:

a) Jumlah 20 ppm

$$\begin{aligned} \% \text{ inhibisi} &= \frac{(\text{Blangko} - \text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512 - 0,275)}{0,512} \times 100\% \\ &= 46,2890625 \end{aligned}$$

b) Jumlah 40 ppm

$$\begin{aligned}\% \text{ inhibisi} &= \frac{(\text{Blangko}-\text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512-0,260)}{0,512} \times 100\% \\ &= 49,21875\end{aligned}$$

c) Jumlah 60 ppm

$$\begin{aligned}\% \text{ inhibisi} &= \frac{(\text{Blangko}-\text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512-0,244)}{0,512} \times 100\% \\ &= 52,34375\end{aligned}$$

d) Jumlah 80 ppm

$$\begin{aligned}\% \text{ inhibisi} &= \frac{(\text{Blangko}-\text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512-0,224)}{0,512} \times 100\% \\ &= 56,25\end{aligned}$$

e) Jumlah 100 ppm

$$\begin{aligned}\% \text{ inhibisi} &= \frac{(\text{Blangko}-\text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512-0,209)}{0,512} \times 100\% \\ &= 59,1796875\end{aligned}$$

Perhitungan nilai IC50

$$y=0,1641x + 42,813$$

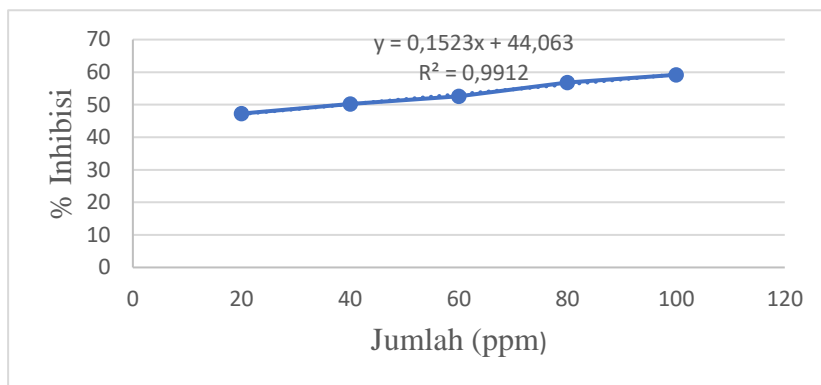
$$50 = 0,1641x + 42,813$$

$$x = \frac{(50-42,813)}{0,1641}$$

$$x = 43,79647$$

### 5) Nanoliposom Minyak Biji Anggur Replikasi 2

Jumlah	Blangko	Absorbansi	% Inhibisi	Persamaan garis dan nilai IC <sub>50</sub>
20 ppm	0,512	0,270	47,265625	$y=0,1523x + 44,063$ $R^2 = 0,9912$ $IC_{50} = 38,98227$
40 ppm	0,512	0,255	50,1953125	
60 ppm	0,512	0,243	52,5390625	
80 ppm	0,512	0,221	56,8359375	
100 ppm	0,512	0,209	59,1796875	



Perhitungan % inhibisi:

a) Jumlah 20 ppm

$$\begin{aligned} \% \text{ inhibisi} &= \frac{(\text{Blangko} - \text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512 - 0,270)}{0,270} \times 100\% \\ &= 47,265625 \end{aligned}$$

b) Jumlah 40 ppm

$$\begin{aligned} \% \text{ inhibisi} &= \frac{(\text{Blangko} - \text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512 - 0,255)}{0,255} \times 100\% \\ &= 50,1953125 \end{aligned}$$

c) Jumlah 60 ppm

$$\begin{aligned} \% \text{ inhibisi} &= \frac{(\text{Blangko} - \text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512 - 0,243)}{0,243} \times 100\% \\ &= 52,5390625 \end{aligned}$$

d) Jumlah 80 ppm

$$\begin{aligned} \% \text{ inhibisi} &= \frac{(\text{Blangko} - \text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512 - 0,221)}{0,221} \times 100\% \end{aligned}$$

$$= 56,8359375$$

e) Jumlah 100 ppm

$$\begin{aligned} \% \text{ inhibisi} &= \frac{(\text{Blangko} - \text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512 - 0,209)}{0,512} \times 100\% \\ &= 59,1796875 \end{aligned}$$

Perhitungan nilai IC<sub>50</sub>

$$y = 0,1523x + 44,063$$

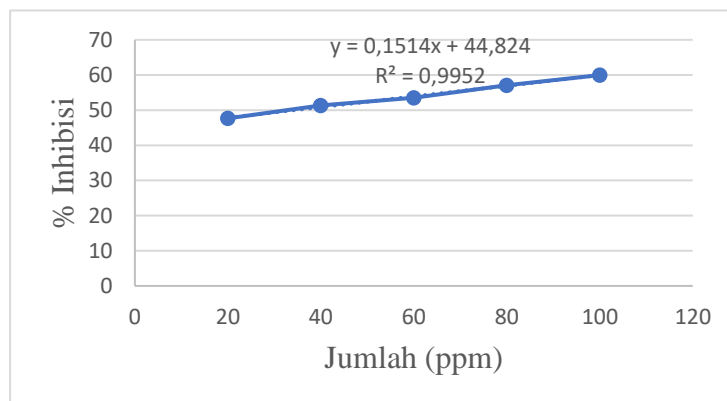
$$50 = 0,1523x + 44,063$$

$$x = \frac{(50 - 44,063)}{0,1523}$$

$$x = 38,98227$$

#### 6) Nanoliposom Minyak Biji Anggur Replikasi 2

Jumlah	Blangko	Absorbansi	% Inhibisi	Persamaan garis dan nilai IC <sub>50</sub>
20 ppm	0,512	0,268	47,65625	$y = 0,1514x + 44,824$ $R^2 = 0,9952$ $IC_{50} = 34,18758256$
40 ppm	0,512	0,249	51,3671875	
60 ppm	0,512	0,238	53,515625	
80 ppm	0,512	0,22	57,03125	
100 ppm	0,512	0,205	59,9609375	



Perhitungan % inhibisi:

a) Jumlah 20 ppm

$$\begin{aligned} \% \text{ inhibisi} &= \frac{(\text{Blangko} - \text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512 - 0,268)}{0,512} \times 100\% \end{aligned}$$



$$= 47,65625$$

b) Jumlah 40 ppm

$$\begin{aligned}\% \text{ inhibisi} &= \frac{(\text{Blangko}-\text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512-0,249)}{0,512} \times 100\% \\ &= 51,3671875\end{aligned}$$

c) Jumlah 60 ppm

$$\begin{aligned}\% \text{ inhibisi} &= \frac{(\text{Blangko}-\text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512-0,238)}{0,512} \times 100\% \\ &= 53,515625\end{aligned}$$

d) Jumlah 80 ppm

$$\begin{aligned}\% \text{ inhibisi} &= \frac{(\text{Blangko}-\text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512-0,220)}{0,512} \times 100\% \\ &= 57,03125\end{aligned}$$

e) Jumlah 100 ppm

$$\begin{aligned}\% \text{ inhibisi} &= \frac{(\text{Blangko}-\text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512-0,205)}{0,512} \times 100\% \\ &= 59,9609375\end{aligned}$$

Perhitungan nilai IC50

$$y=0,1514x + 44,824$$

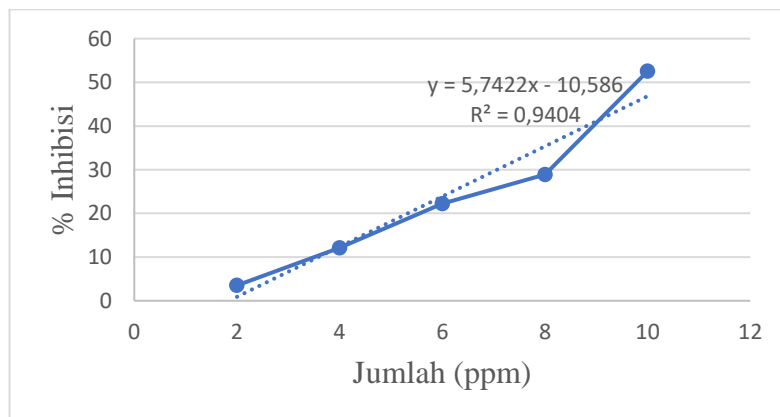
$$50 = 0,1514x + 44,824$$

$$x = \frac{(50-44,824)}{0,1514}$$

$$x = 34,18758256$$

### 7) Vitamin C Replikasi 1

Jumlah	Blangko	Absorbansi	% Inhibisi	Persamaan garis dan nilai IC <sub>50</sub>
2 ppm	0,512	0,494	3,515625	$y = 5,7422x - 10,586$ $R^2 = 0,9404$ $IC_{50} = 10,55101$
4 ppm	0,512	0,450	12,109375	
6 ppm	0,512	0,398	22,265625	
8 ppm	0,512	0,364	28,90625	
10 ppm	0,512	0,243	52,5390625	



Perhitungan % inhibisi:

a) Jumlah 2 ppm

$$\begin{aligned} \% \text{ inhibisi} &= \frac{(\text{Blangko} - \text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512 - 0,494)}{0,494} \times 100\% \\ &= 3,515625 \end{aligned}$$

b) Jumlah 4 ppm

$$\begin{aligned} \% \text{ inhibisi} &= \frac{(\text{Blangko} - \text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512 - 0,450)}{0,450} \times 100\% \\ &= 12,109375 \end{aligned}$$

c) Jumlah 6 ppm

$$\begin{aligned} \% \text{ inhibisi} &= \frac{(\text{Blangko} - \text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512 - 0,398)}{0,398} \times 100\% \\ &= 22,265625 \end{aligned}$$

d) Jumlah 8 ppm

$$\begin{aligned} \% \text{ inhibisi} &= \frac{(\text{Blangko} - \text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512 - 0,364)}{0,364} \times 100\% \end{aligned}$$

$$= 28,90625$$

e) Jumlah 10 ppm

$$\begin{aligned} \% \text{ inhibisi} &= \frac{(\text{Blangko} - \text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512 - 0,243)}{0,512} \times 100\% \\ &= 52,5390625 \end{aligned}$$

Perhitungan nilai IC<sub>50</sub>

$$y = 5,7422x - 10,586$$

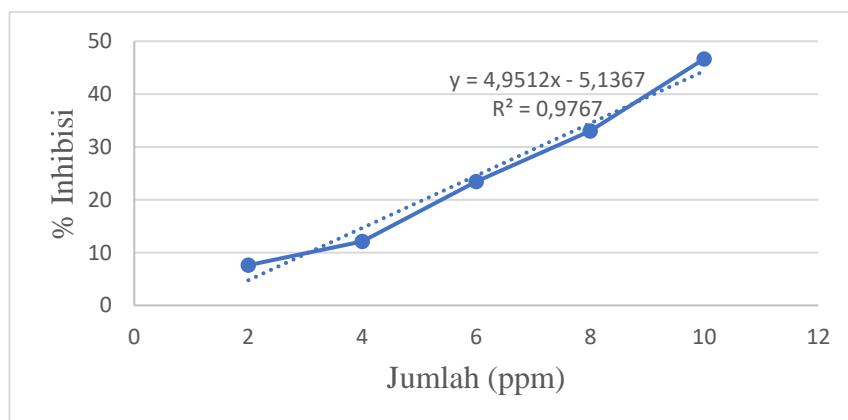
$$50 = 5,7422x - 10,586$$

$$x = \frac{(50 + 10,586)}{5,7422}$$

$$x = 10,55101$$

## 8) Vitamin C Replikasi 2

Jumlah	Blangko	Absorbansi	% Inhibisi	Persamaan garis dan nilai IC <sub>50</sub>
2 ppm	0,512	0,473	7,6171875	y = 4,9512x - 5,1367 R <sup>2</sup> = 0,9767 IC <sub>50</sub> = 11,13603
4 ppm	0,512	0,45	12,109375	
6 ppm	0,512	0,392	23,4375	
8 ppm	0,512	0,343	33,0078125	
10 ppm	0,512	0,273	46,6796875	



Perhitungan % inhibisi:

a) Jumlah 2 ppm

$$\begin{aligned} \% \text{ inhibisi} &= \frac{(\text{Blangko} - \text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512 - 0,473)}{0,512} \times 100\% \\ &= 7,6171875 \end{aligned}$$

b) Jumlah 4 ppm

$$\begin{aligned}\% \text{ inhibisi} &= \frac{(\text{Blangko} - \text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512 - 0,450)}{0,512} \times 100\% \\ &= 12,109375\end{aligned}$$

c) Jumlah 6 ppm

$$\begin{aligned}\% \text{ inhibisi} &= \frac{(\text{Blangko} - \text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512 - 0,392)}{0,512} \times 100\% \\ &= 23,4375\end{aligned}$$

d) Jumlah 8 ppm

$$\begin{aligned}\% \text{ inhibisi} &= \frac{(\text{Blangko} - \text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512 - 0,343)}{0,512} \times 100\% \\ &= 33,0078125\end{aligned}$$

e) Jumlah 10 ppm

$$\begin{aligned}\% \text{ inhibisi} &= \frac{(\text{Blangko} - \text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512 - 0,273)}{0,512} \times 100\% \\ &= 46,6796875\end{aligned}$$

Perhitungan nilai IC<sub>50</sub>

$$y = 4,9512x - 5,1367$$

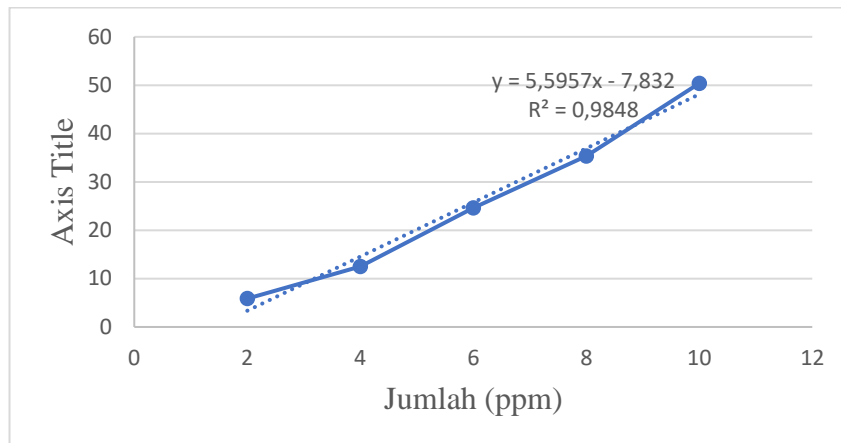
$$50 = 4,9512x - 5,1367$$

$$x = \frac{(50 + 5,1367)}{4,9512}$$

$$x = 11,13603$$

### 9) Vitamin C Replikasi 3

Jumlah	Blangko	Absorbansi	% Inhibisi	Persamaan garis dan nilai IC <sub>50</sub>
2 ppm	0,512	0,482	5,859375	y = 5,5957x - 7,832 R <sup>2</sup> = 0,9848 IC <sub>50</sub> = 10,33508
4 ppm	0,512	0,448	12,5	
6 ppm	0,512	0,386	24,609375	
8 ppm	0,512	0,331	35,3515625	
10 ppm	0,512	0,254	50,390625	



Perhitungan % inhibisi:

a) Jumlah 2 ppm

$$\begin{aligned} \% \text{ inhibisi} &= \frac{(\text{Blangko} - \text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512 - 0,482)}{0,512} \times 100\% \\ &= 5,859375 \end{aligned}$$

b) Jumlah 4 ppm

$$\begin{aligned} \% \text{ inhibisi} &= \frac{(\text{Blangko} - \text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512 - 0,448)}{0,512} \times 100\% \\ &= 12,5 \end{aligned}$$

c) Jumlah 6 ppm

$$\begin{aligned} \% \text{ inhibisi} &= \frac{(\text{Blangko} - \text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512 - 0,386)}{0,512} \times 100\% \\ &= 24,609375 \end{aligned}$$

d) Jumlah 8 ppm

$$\begin{aligned} \% \text{ inhibisi} &= \frac{(\text{Blangko} - \text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512 - 0,331)}{0,512} \times 100\% \\ &= 35,3515625 \end{aligned}$$

e) Jumlah 10 ppm

$$\begin{aligned} \% \text{ inhibisi} &= \frac{(\text{Blangko} - \text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512 - 0,254)}{0,512} \times 100\% \\ &= 50,390625 \end{aligned}$$

Perhitungan nilai IC50

$$y = 5,5957x - 7,832$$

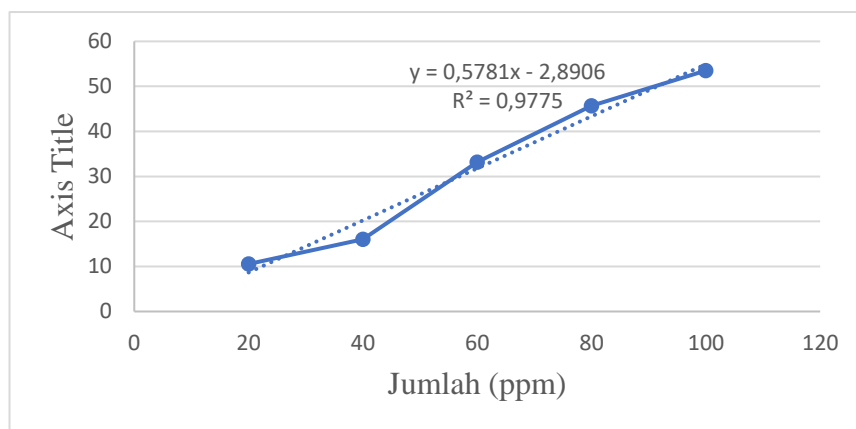
$$50 = 5,5957x - 7,832$$

$$x = \frac{(50 + 7,832)}{5,5957}$$

$$x = 10,33508$$

### 10) Serum Nanoliposom Formula 1 Replikasi 1

Jumlah	Blangko	Absorbansi	% Inhibisi	Persamaan garis dan nilai IC <sub>50</sub>
20 ppm	0,512	0,458	10,546875	$y = 0,5781x - 2,8906$ $R^2 = 0,9775$ $IC_{50} = 91,4904$
40 ppm	0,512	0,43	16,015625	
60 ppm	0,512	0,342	33,203125	
80 ppm	0,512	0,278	45,703125	
100 ppm	0,512	0,238	53,515625	



Perhitungan % inhibisi:

a) Jumlah 20 ppm

$$\begin{aligned} \% \text{ inhibisi} &= \frac{(\text{Blangko} - \text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512 - 0,458)}{0,458} \times 100\% \\ &= 10,546875 \end{aligned}$$

b) Jumlah 40 ppm

$$\% \text{ inhibisi} = \frac{(\text{Blangko} - \text{absorbansi})}{\text{absorbansi}} \times 100\%$$

$$= \frac{(0,512-0,430)}{0,512} \times 100\%$$

$$= 16,015625$$

c) Jumlah 60 ppm

$$\% \text{ inhibisi} = \frac{(\text{Blangko}-\text{absorbansi})}{\text{absorbansi}} \times 100\%$$

$$= \frac{(0,512-0,342)}{0,512} \times 100\%$$

$$= 33,203125$$

d) Jumlah 80 ppm

$$\% \text{ inhibisi} = \frac{(\text{Blangko}-\text{absorbansi})}{\text{absorbansi}} \times 100\%$$

$$= \frac{(0,512-0,278)}{0,512} \times 100\%$$

$$= 45,703125$$

e) Jumlah 100 ppm

$$\% \text{ inhibisi} = \frac{(\text{Blangko}-\text{absorbansi})}{\text{absorbansi}} \times 100\%$$

$$= \frac{(0,512-0,238)}{0,512} \times 100\%$$

$$= 53,515625$$

Perhitungan nilai IC<sub>50</sub>

$$y=0,5781x-2,8906$$

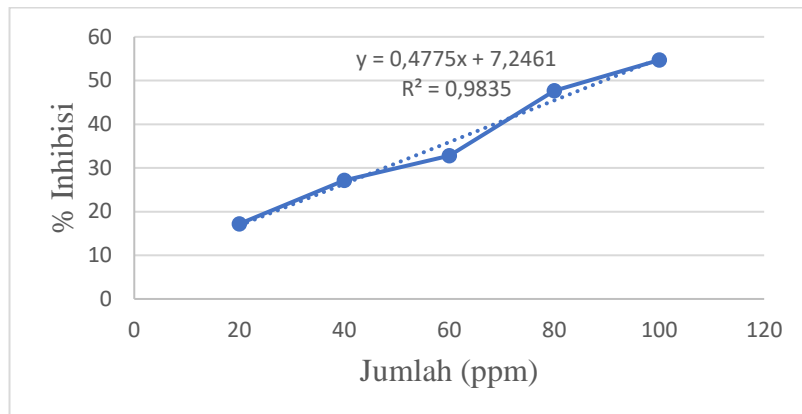
$$50 = 0,5781x - 2,8906$$

$$x = \frac{(50+2,8906)}{0,5781}$$

$$x = 91,4904$$

### 11) Serum Nanoliposom Formula 1 Replikasi 2

Jumlah	Blangko	Absorbansi	% Inhibisi	Persamaan garis dan nilai IC <sub>50</sub>
20 ppm	0,512	0,424	17,1875	y= 0,4775x + 7,2461 R <sup>2</sup> = 0,9835 IC <sub>50</sub> = 89,53696
40 ppm	0,512	0,373	27,1484375	
60 ppm	0,512	0,344	32,8125	
80 ppm	0,512	0,268	47,65625	
100 ppm	0,512	0,232	54,6875	



Perhitungan % inhibisi:

a) Jumlah 20 ppm

$$\begin{aligned} \% \text{ inhibisi} &= \frac{(\text{Blangko} - \text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512 - 0,424)}{0,512} \times 100\% \\ &= 17,1875 \end{aligned}$$

b) Jumlah 40 ppm

$$\begin{aligned} \% \text{ inhibisi} &= \frac{(\text{Blangko} - \text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512 - 0,373)}{0,512} \times 100\% \\ &= 27,1484375 \end{aligned}$$

c) Jumlah 60 ppm

$$\begin{aligned} \% \text{ inhibisi} &= \frac{(\text{Blangko} - \text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512 - 0,344)}{0,512} \times 100\% \\ &= 32,8125 \end{aligned}$$

d) Jumlah 80 ppm

$$\begin{aligned} \% \text{ inhibisi} &= \frac{(\text{Blangko} - \text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512 - 0,268)}{0,512} \times 100\% \\ &= 47,65625 \end{aligned}$$

e) Jumlah 100 ppm

$$\begin{aligned} \% \text{ inhibisi} &= \frac{(\text{Blangko} - \text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512 - 0,232)}{0,512} \times 100\% \\ &= 54,6875 \end{aligned}$$

Perhitungan nilai IC50



$$y = 0,4775x + 7,2461$$

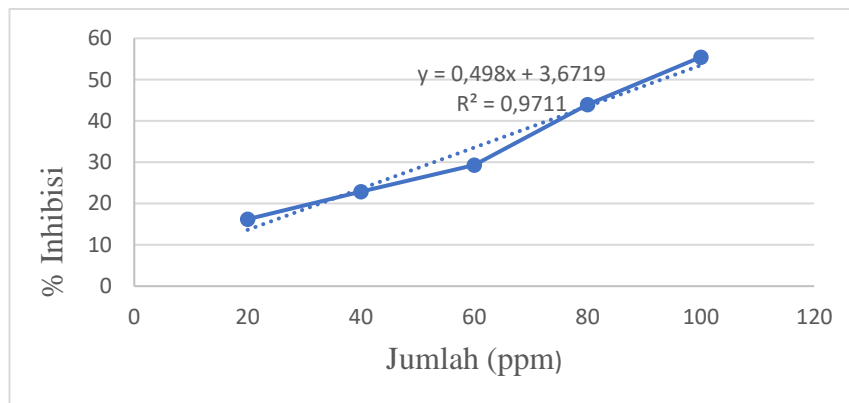
$$50 = 0,4775x + 7,2461$$

$$x = \frac{(50 - 7,2461)}{0,4775}$$

$$x = 89,53696$$

### 12) Serum Nanoliposom Formula 1 Replikasi 3

Jumlah	Blangko	Absorbansi	% Inhibisi	Persamaan garis dan nilai IC <sub>50</sub>
20 ppm	0,512	0,429	16,2109375	$y = 0,498x + 3,6719$ $R^2 = 0,9711$ $IC_{50} = 93,02831$
40 ppm	0,512	0,395	22,8515625	
60 ppm	0,512	0,362	29,296875	
80 ppm	0,512	0,287	43,9453125	
100 ppm	0,512	0,228	55,46875	



Perhitungan % inhibisi:

a) Jumlah 20 ppm

$$\begin{aligned} \% \text{ inhibisi} &= \frac{(\text{Blangko} - \text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512 - 0,429)}{0,429} \times 100\% \\ &= 16,2109375 \end{aligned}$$

b) Jumlah 40 ppm

$$\begin{aligned} \% \text{ inhibisi} &= \frac{(\text{Blangko} - \text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512 - 0,395)}{0,395} \times 100\% \\ &= 22,8515625 \end{aligned}$$

c) Jumlah 60 ppm

$$\% \text{ inhibisi} = \frac{(\text{Blangko} - \text{absorbansi})}{\text{absorbansi}} \times 100\%$$

$$= \frac{(0,512-0,362)}{0,512} \times 100\%$$

$$= 29,296875$$

d) Jumlah 80 ppm

$$\% \text{ inhibisi} = \frac{(\text{Blangko}-\text{absorbansi})}{\text{absorbansi}} \times 100\%$$

$$= \frac{(0,512-0,287)}{0,512} \times 100\%$$

$$= 43,9453125$$

e) Jumlah 100 ppm

$$\% \text{ inhibisi} = \frac{(\text{Blangko}-\text{absorbansi})}{\text{absorbansi}} \times 100\%$$

$$= \frac{(0,512-0,228)}{0,512} \times 100\%$$

$$= 55,46875$$

Perhitungan nilai IC<sub>50</sub>

$$y=0,498x +3,6719$$

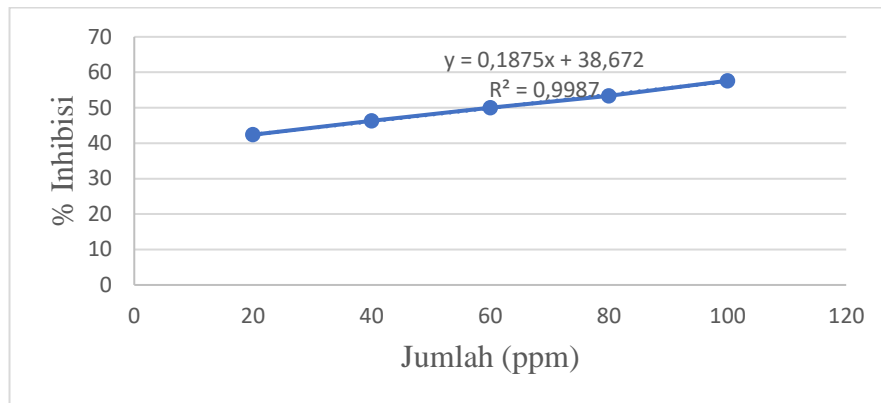
$$50 =0,498x +3,6719$$

$$x = \frac{(50-3,6719)}{0,498}$$

$$x = 93,02831$$

### 13) Serum Nanoliposom Formula 2 Replikasi 1

Jumlah	Blangko	Absorbansi	% Inhibisi	Persamaan garis dan nilai IC <sub>50</sub>
20 ppm	0,512	0,295	42,3828125	y= 0,1875x + 38,672 R <sup>2</sup> = 0,9987 IC <sub>50</sub> = 60,416
40 ppm	0,512	0,275	46,2890625	
60 ppm	0,512	0,256	50	
80 ppm	0,512	0,239	53,3203125	
100 ppm	0,512	0,217	57,6171875	



Perhitungan % inhibisi:

a) Jumlah 20 ppm

$$\begin{aligned} \% \text{ inhibisi} &= \frac{(\text{Blangko} - \text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512 - 0,295)}{0,512} \times 100\% \\ &= 42,3828125 \end{aligned}$$

b) Jumlah 40 ppm

$$\begin{aligned} \% \text{ inhibisi} &= \frac{(\text{Blangko} - \text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512 - 0,275)}{0,512} \times 100\% \\ &= 46,2890625 \end{aligned}$$

c) Jumlah 60 ppm

$$\begin{aligned} \% \text{ inhibisi} &= \frac{(\text{Blangko} - \text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512 - 0,256)}{0,512} \times 100\% \\ &= 50 \end{aligned}$$

d) Jumlah 80 ppm

$$\begin{aligned} \% \text{ inhibisi} &= \frac{(\text{Blangko} - \text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512 - 0,239)}{0,512} \times 100\% \\ &= 53,3203125 \end{aligned}$$

e) Jumlah 100 ppm

$$\begin{aligned} \% \text{ inhibisi} &= \frac{(\text{Blangko} - \text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512 - 0,217)}{0,512} \times 100\% \\ &= 57,6171875 \end{aligned}$$

Perhitungan nilai IC50

$$y = 0,1875x + 38,672$$

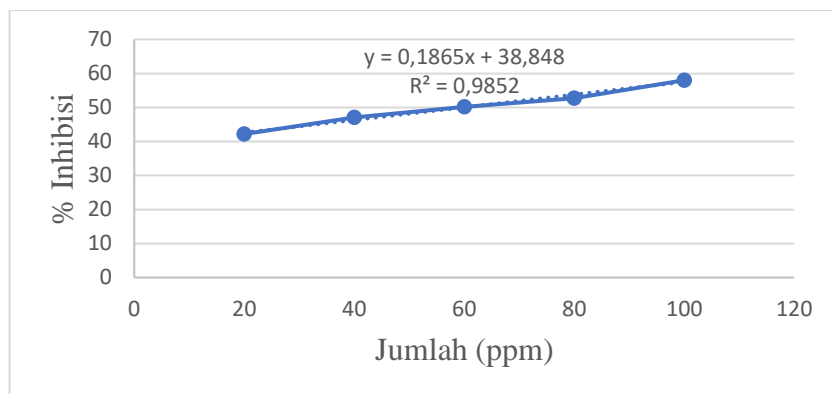
$$50 = 0,1875x + 38,672$$

$$x = \frac{(50 - 38,672)}{0,1875}$$

$$x = 60,416$$

#### 14) Serum Nanoliposom Formula 2 Replikasi 2

Jumlah	Blangko	Absorbansi	% Inhibisi	Persamaan garis dan nilai IC <sub>50</sub>
20 ppm	0,512	0,296	42,1875	y = 0,1865x + 38,848 R <sup>2</sup> = 0,9852 IC <sub>50</sub> = 59,79625
40 ppm	0,512	0,271	47,0703125	
60 ppm	0,512	0,255	50,1953125	
80 ppm	0,512	0,242	52,734375	
100 ppm	0,512	0,215	58,0078125	



Perhitungan % inhibisi:

a) Jumlah 20 ppm

$$\begin{aligned} \text{\% inhibisi} &= \frac{(\text{Blangko} - \text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512 - 0,296)}{0,296} \times 100\% \\ &= 42,1875 \end{aligned}$$

b) Jumlah 40 ppm

$$\begin{aligned} \text{\% inhibisi} &= \frac{(\text{Blangko} - \text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512 - 0,271)}{0,271} \times 100\% \\ &= 47,0703125 \end{aligned}$$

c) Jumlah 60 ppm

$$\begin{aligned} \text{\% inhibisi} &= \frac{(\text{Blangko} - \text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512 - 0,255)}{0,255} \times 100\% \\ &= 50,1953125 \end{aligned}$$

d) Jumlah 80 ppm

$$\begin{aligned} \% \text{ inhibisi} &= \frac{(\text{Blangko} - \text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512 - 0,242)}{0,512} \times 100\% \\ &= 52,734375 \end{aligned}$$

e) Jumlah 100 ppm

$$\begin{aligned} \% \text{ inhibisi} &= \frac{(\text{Blangko} - \text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512 - 0,215)}{0,512} \times 100\% \\ &= 58,0078125 \end{aligned}$$

Perhitungan nilai IC50

$$y = 0,1865x + 38,848$$

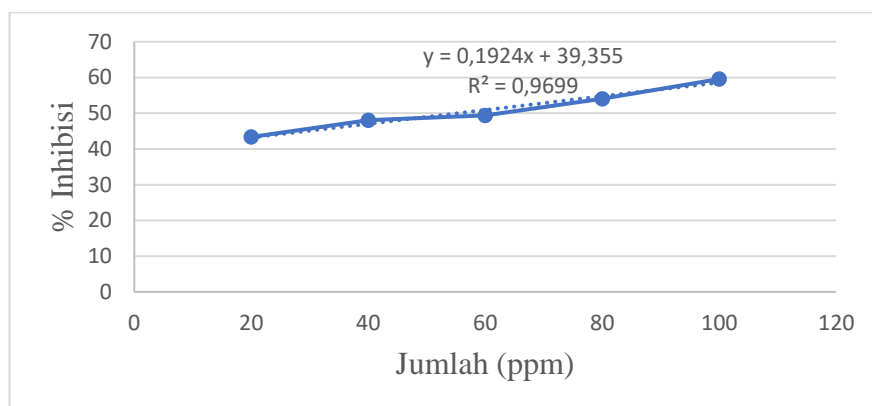
$$50 = 0,1865x + 38,848$$

$$x = \frac{(50 - 38,848)}{0,1865}$$

$$x = 59,79625$$

### 15) Serum Nanoliposom Formula 2 Replikasi 3

Jumlah	Blangko	Absorbansi	% Inhibisi	Persamaan garis dan nilai IC <sub>50</sub>
20 ppm	0,512	0,29	43,359375	$y = 0,1924x + 39,355$ $R^2 = 0,9699$ $IC_{50} = 55,32744$
40 ppm	0,512	0,266	48,046875	
60 ppm	0,512	0,259	49,4140625	
80 ppm	0,512	0,235	54,1015625	
100 ppm	0,512	0,207	59,5703125	



Perhitungan % inhibisi:

a) Jumlah 20 ppm

$$\begin{aligned}\% \text{ inhibisi} &= \frac{(\text{Blangko}-\text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512-0,290)}{0,512} \times 100\% \\ &= 43,359375\end{aligned}$$

b) Jumlah 40 ppm

$$\begin{aligned}\% \text{ inhibisi} &= \frac{(\text{Blangko}-\text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512-0,266)}{0,512} \times 100\% \\ &= 48,046875\end{aligned}$$

c) Jumlah 60 ppm

$$\begin{aligned}\% \text{ inhibisi} &= \frac{(\text{Blangko}-\text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512-0,259)}{0,512} \times 100\% \\ &= 50,1953125\end{aligned}$$

d) Jumlah 80 ppm

$$\begin{aligned}\% \text{ inhibisi} &= \frac{(\text{Blangko}-\text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512-0,235)}{0,512} \times 100\% \\ &= 54,1015625\end{aligned}$$

e) Jumlah 100 ppm

$$\begin{aligned}\% \text{ inhibisi} &= \frac{(\text{Blangko}-\text{absorbansi})}{\text{absorbansi}} \times 100\% \\ &= \frac{(0,512-0,207)}{0,512} \times 100\% \\ &= 59,5703125\end{aligned}$$

Perhitungan nilai IC50

$$y=0,1924x + 39,355$$

$$50 = 0,1924x + 39,355$$

$$x = \frac{(50-39,355)}{0,1924}$$

$$x = 55,32744$$

## Lampiran 25.SPSS uji pH

### Descriptives

	Fomula serum		Statistic	Std. Error	
Uji pH	Formula 1	Mean	6.3633	.01453	
		95% Confidence Interval for Mean	Lower Bound	6.3008	
			Upper Bound	6.4258	
		5% Trimmed Mean	.		
		Median	6.3600		
		Variance	.001		
		Std. Deviation	.02517		
		Minimum	6.34		
		Maximum	6.39		
		Range	.05		
		Interquartile Range	.		
		Skewness	.586	1.225	
		Kurtosis	.	.	
		Formula 2	Mean	6.6200	.01528
			95% Confidence Interval for Mean	Lower Bound	6.5543
	Upper Bound			6.6857	
	5% Trimmed Mean		.		
	Median		6.6100		
	Variance		.001		
	Std. Deviation		.02646		
Minimum	6.60				
Maximum	6.65				
Range	.05				
Interquartile Range	.				
Skewness	1.458		1.225		
Kurtosis	.		.		

### Tests of Normality

	Fomula serum	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
		Statistic	df	Signifikan.	Statistic	df	Signifikan.
Uji pH	Formula 1	.219	3	.	.987	3	.780
	Formula 2	.314	3	.	.893	3	.363

a. Lilliefors Signifikannificance Correction

Keterangan : data terdistribusi normal karena nilai signifikan >0,05

### Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Signifikan.
Uji pH	Based on Mean	.057	1	4	.823
	Based on Median	.000	1	4	1.000
	Based on Median and with adjusted df	.000	1	3.670	1.000
	Based on trimmed mean	.048	1	4	.837

Keterangan : data terdistribusi homogen karena nilai signifikan >0,05

### ANOVA

Uji pH

	Sum of Squares	df	Mean Square	F	Signifikan.
Between Groups	.099	1	.099	148.225	.000
Within Groups	.003	4	.001		
Total	.101	5			

Keterangan : ada perbedaan pH yang signifikan antara formula 1 dan 2 karena nilai signifikan <0,05



## Lampiran 26.SPSS Uji Viskositas

### Descriptives

		Fomula serum		Statistic	Std. Error
Uji Viskositas	Formula 1	Mean		1348.00	46.130
		95% Confidence Interval for	Lower Bound	1149.52	
		Mean	Upper Bound	1546.48	
		5% Trimmed Mean		.	
		Median		1308.00	
		Variance		6384.000	
		Std. Deviation		79.900	
		Minimum		1296	
		Maximum		1440	
		Range		144	
		Interquartile Range		.	
		Skewness		1.688	1.225
		Kurtosis		.	.
		Formula 2	Mean		1716.00
		95% Confidence Interval for	Lower Bound	1431.63	
		Mean	Upper Bound	2000.37	
		5% Trimmed Mean		.	
		Median		1656.00	
		Variance		13104.000	
		Std. Deviation		114.473	
		Minimum		1644	
		Maximum		1848	
		Range		204	
	Interquartile Range		.		
	Skewness		1.711	1.225	
	Kurtosis		.	.	

### Tests of Normality

	Fomula serum	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
		Statistic	df	Signifikan.	Statistic	df	Signifikan.
Uji Viskositas	Formula 1	.358	3	.	.812	3	.144
	Formula 2	.367	3	.	.794	3	.100

a. Lilliefors Signifikannificance Correction

Keterangan : data terdistribusi normal karena nilai signifikan >0,05

### Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Signifikan.
Uji Viskositas	Based on Mean	.957	1	4	.383
	Based on Median	.071	1	4	.803
	Based on Median and with adjusted df	.071	1	3.520	.805
	Based on trimmed mean	.774	1	4	.429

Keterangan : data terdistribusi homogen karena nilai signifikan >0,05

### ANOVA

Uji Viskositas

	Sum of Squares	df	Mean Square	F	Signifikan.
Between Groups	203136.000	1	203136.000	20.847	.010
Within Groups	38976.000	4	9744.000		
Total	242112.000	5			

Keterangan : ada perbedaan viskositas yang signifikan antara formula 1 dan 2 karena nilai signifikan <0,05

## Lampiran 27.SPSS Uji Daya Sebar

### Descriptives

Fomula serum		Statistic	Std. Error			
Uji Daya Sebar	Formula 1	Mean	6.7833	.02963		
		95% Confidence Interval for Mean	Lower Bound	6.6559		
			Upper Bound	6.9108		
		5% Trimmed Mean	.			
		Median	6.7700			
		Variance	.003			
		Std. Deviation	.05132			
		Minimum	6.74			
		Maximum	6.84			
		Range	.10			
		Interquartile Range	.			
		Skewness	1.090	1.225		
		Kurtosis	.	.		
			Formula 2	Mean	6.5633	.06642
				95% Confidence Interval for Mean	Lower Bound	6.2776
Upper Bound	6.8491					
5% Trimmed Mean	.					
Median	6.5600					
Variance	.013					
Std. Deviation	.11504					
Minimum	6.45					
Maximum	6.68					
Range	.23					
Interquartile Range	.					
Skewness	.130			1.225		
Kurtosis	.			.		

### Tests of Normality

		Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
Fomula serum		Statistic	df	Sig.	Statistic	df	Sig.
Uji Daya Sebar	Formula 1	.269	3	.	.949	3	.567
	Formula 2	.178	3	.	.999	3	.952

a. Lilliefors Significance Correction

Keterangan : data terdistribusi normal karena nilai signifikan >0,05

### Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Uji Daya Sebar	Based on Mean	1.032	1	4	.367
	Based on Median	.994	1	4	.375
	Based on Median and with adjusted df	.994	1	3.033	.392
	Based on trimmed mean	1.032	1	4	.367

Keterangan : data terdistribusi homogen karena nilai signifikan  $>0,05$

### ANOVA

Uji Daya Sebar

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.073	1	.073	9.151	.039
Within Groups	.032	4	.008		
Total	.104	5			

Keterangan : ada perbedaan daya sebar yang signifikan antara formula 1 dan 2 karena nilai signifikan  $<0,05$

## Lampiran 28.SPSS Uji Daya Lekat

### Descriptives

		Fomula serum	Statistic	Std. Error	
Uji Daya Lekat	Formula 1	Mean	3.67	.333	
		95% Confidence Interval for Mean	Lower Bound	2.23	
			Upper Bound	5.10	
		5% Trimmed Mean	.		
		Median	4.00		
		Variance	.333		
		Std. Deviation	.577		
		Minimum	3		
		Maximum	4		
		Range	1		
		Interquartile Range	.		
		Skewness	-1.732	1.225	
		Kurtosis	.	.	
		Formula 2	Mean	4.67	.333
	95% Confidence Interval for Mean		Lower Bound	3.23	
			Upper Bound	6.10	
	5% Trimmed Mean		.		
	Median		5.00		
	Variance		.333		
	Std. Deviation		.577		
	Minimum		4		
	Maximum		5		
Range	1				
Interquartile Range	.				
Skewness	-1.732		1.225		
Kurtosis	.		.		

### Tests of Normality

	Fomula serum	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
		Statistic	df	Signifikan.	Statistic	df	Signifikan.
Uji Daya Lekat	Formula 1	.385	3	.	.750	3	.000
	Formula 2	.385	3	.	.750	3	.000

a. Lilliefors Signifikannificance Correction

Keterangan : data terdistribusi tidak normal karena nilai signifikan <0,05

### Test of Homogeneity of Variances

Uji Daya Lekat		Levene Statistic	df1	df2	Signifikan.
		Based on Mean	.000	1	4
	Based on Median	.000	1	4	1.000
	Based on Median and with adjusted df	.000	1	4.000	1.000
	Based on trimmed mean	.000	1	4	1.000

Keterangan : data tidak terdistribusi homogen karena nilai signifikan <0,05

### NPar Tests

#### Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
Uji Daya Lekat	6	4.17	.753	3	5
Fomula serum	6	1.50	.548	1	2

### Kruskal-Wallis Test

#### Ranks

	Fomula serum	N	Mean Rank
Uji Daya Lekat	Formula 1	3	2.33
	Formula 2	3	4.67
	Total	6	

#### Test Statistics<sup>a,b</sup>

Uji Daya Lekat

Kruskal-Wallis H	2.722
df	1
Asymp. Signifikan.	.099

a. Kruskal Wallis Test

b. Grouping Variable: Fomula serum

Keterangan : tidak ada perbedaan daya lekat yang signifikan antara formula 1 dan 2 karena nilai signifikan  $>0,05$

## Lampiran 29. SPSS Cycling test

### Uji pH

		Descriptives		Statistic	Std. Error		
Formula serum							
pH serum	F1 sebelum cycling test	Mean		6.3633	.01453		
		95% Confidence Interval for Mean	Lower Bound	6.3008			
			Upper Bound	6.4258			
		5% Trimmed Mean		.			
		Median		6.3600			
		Variance		.001			
		Std. Deviation		.02517			
		Minimum		6.34			
		Maximum		6.39			
		Range		.05			
		Interquartile Range		.			
		Skewness		.586	1.225		
		Kurtosis		.	.		
		F1 sesudah cycling test	F1 sesudah cycling test	Mean		6.6267	.02963
				95% Confidence Interval for Mean	Lower Bound	6.4992	
Upper Bound	6.7541						
5% Trimmed Mean				.			
Median				6.6400			
Variance				.003			
Std. Deviation				.05132			
Minimum				6.57			
Maximum				6.67			
Range				.10			
Interquartile Range				.			
Skewness				-1.090	1.225		
Kurtosis				.	.		
F2 sebelum cycling test	F2 sebelum cycling test			Mean		6.6200	.01528
				95% Confidence Interval for Mean	Lower Bound	6.5543	
		Upper Bound	6.6857				
		5% Trimmed Mean		.			
		Median		6.6100			
		Variance		.001			
		Std. Deviation		.02646			
		Minimum		6.60			
		Maximum		6.65			
		Range		.05			
		Interquartile Range		.			
		Skewness		1.458	1.225		
		Kurtosis		.	.		
		F2 sesudah cycling test	F2 sesudah cycling test	Mean		6.8600	.02517
				95% Confidence Interval for Mean	Lower Bound	6.7517	
Upper Bound	6.9683						
5% Trimmed Mean				.			
Median				6.8400			
Variance				.002			
Std. Deviation				.04359			
Minimum				6.83			
Maximum				6.91			
Range				.08			
Interquartile Range				.			
Skewness				1.630	1.225		
Kurtosis				.	.		



### Tests of Normality

Formula serum	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
pH serum F1 sebelum cycling test	.219	3	.	.987	3	.780
F1 sesudah cycling test	.269	3	.	.949	3	.567
F2 sebelum cycling test	.314	3	.	.893	3	.363
F2 sesudah cycling test	.343	3	.	.842	3	.220

a. Lilliefors Significance Correction

Keterangan : data terdistribusi normal karena nilai signifikan >0,05

### Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Signifikan.
pH serum	Based on Mean	1.178	3	8	.377
	Based on Median	.240	3	8	.866
	Based on Median and with adjusted df	.240	3	5.821	.865
	Based on trimmed mean	1.065	3	8	.416

Keterangan : data terdistribusi homogen karena nilai signifikan >0,05

### T-Test

#### Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	pH F1 sebelum cycling test	6.3633	3	.02517	.01453
	pH F1 sesudah cycling test	6.6267	3	.05132	.02963
Pair 2	pH F2 sebelum cycling test	6.6200	3	.02646	.01528
	pH F2 sesudah cycling test	6.8600	3	.04359	.02517

#### Paired Samples Correlations

		N	Correlation	Signifikan.
Pair 1	pH F1 sebelum cycling test & pH F1 sesudah cycling test	3	.942	.218
Pair 2	pH F2 sebelum cycling test & pH F2 sesudah cycling test	3	.997	.048

Paired Samples Test									
		Paired Differences				t	df	Sig. (2-tailed)	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	pH F1 sebelum cycling test - pH F1 sesudah cycling test	-.26333	.02887	.01667	-.33504	-.19162	-15,800	2	.004
Pair 2	pH F2 sebelum cycling test - pH F2 sesudah cycling test	-.24000	.01732	.01000	-.28303	-.19697	-24,000	2	.002

Keterangan : formula 1 dan 2 ada perbedaan yang signifikan sebelum dan sesudah *cycling test* karena nilai signifikan  $<0,05$

### Lampiran 30. SPSS Uji Viskositas

		Descriptives		Statistic	Std. Error		
Viskositas serum	Formula serum	F1 sebelum cycling test	Mean	1348.00	46.130		
			95% Confidence Interval for Mean	Lower Bound	1149.52		
				Upper Bound	1546.48		
			5% Trimmed Mean	.			
			Median	1308.00			
			Variance	6384.000			
			Std. Deviation	79.900			
			Minimum	1296			
			Maximum	1440			
			Range	144			
			Interquartile Range	.			
			Skewness	1.688	1.225		
			Kurtosis	.	.		
			F1 sesudah cycling test	F1 sesudah cycling test	F1 sesudah cycling test	Mean	1264.67
	95% Confidence Interval for Mean	Lower Bound				1114.77	
		Upper Bound				1414.57	
	5% Trimmed Mean	.					
	Median	1236.00					
	Variance	3641.333					
	Std. Deviation	60.343					
	Minimum	1224					
	Maximum	1334					
	Range	110					
	Interquartile Range	.					
	Skewness	1.655				1.225	
	Kurtosis	.				.	
	F2 sebelum cycling test	F2 sebelum cycling test				F2 sebelum cycling test	Mean
			95% Confidence Interval for Mean	Lower Bound	1431.63		
				Upper Bound	2000.37		
			5% Trimmed Mean	.			
			Median	1656.00			
			Variance	13104.000			
			Std. Deviation	114.473			
			Minimum	1644			
			Maximum	1848			
			Range	204			
			Interquartile Range	.			
			Skewness	1.711	1.225		
			Kurtosis	.	.		
			F2 sesudah cycling test	F2 sesudah cycling test	F2 sesudah cycling test		Mean
95% Confidence Interval for Mean	Lower Bound	1043.15					
	Upper Bound	2116.85					
5% Trimmed Mean	.						
Median	1572.00						
Variance	46704.000						
Std. Deviation	216.111						
Minimum	1368						
Maximum	1800						
Range	432						
Interquartile Range	.						
Skewness	.166	1.225					
Kurtosis	.	.					

### Tests of Normality

Formula serum	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk			
	Statistic	df	Sig.	Statistic	df	Sig.	
Viskositas serum	F1 sebelum cycling test	.358	3	.	.812	3	.144
	F1 sesudah cycling test	.349	3	.	.831	3	.190
	F2 sebelum cycling test	.367	3	.	.794	3	.100
	F2 sesudah cycling test	.181	3	.	.999	3	.939

a. Lilliefors Significance Correction

Keterangan : data terdistribusi normal karena nilai signifikan  $>0,05$

### Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Signifikan.
Uji_Viskositas	Based on Mean	1.374	3	8	.319
	Based on Median	.790	3	8	.532
	Based on Median and with adjusted df	.790	3	6.031	.542
	Based on trimmed mean	1.340	3	8	.328

Keterangan : data terdistribusi homogen karena nilai signifikan  $>0,05$

### T-Test

#### Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	viskositas F1 sebelum cycling test	1348.00	3	79.900	46.130
	viskositas F1 sesudah cycling test	1264.67	3	60.343	34.839
Pair 2	viskositas F2 sebelum cycling test	1716.00	3	114.473	66.091
	viskositas F2 sesudah cycling test	1580.00	3	216.111	124.772

### Paired Samples Correlations

		N	Correlation	Signifikan.
Pair 1	viskositas F1 sebelum cycling test & viskositas F1 sesudah cycling test	3	.985	.111
Pair 2	viskositas F2 sebelum cycling test & viskositas F2 sesudah cycling test	3	.905	.280

### Paired Samples Test

		Paired Differences				t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower Upper			
Pair 1	viskositas F1 sebelum cycling test - viskositas F1 sesudah cycling test	83.333	23.007	13.283	-26.180 140.486	6.274	2	.024
Pair 2	viskositas F2 sebelum cycling test - viskositas F2 sesudah cycling test	136.000	122.572	70.767	-168.487 440.487	1.922	2	.195

Keterangan : formula 1 ada perbedaan viskositas yang signifikan sebelum dan sesudah *cycling test* karena nilai signifikan  $<0,05$  sedangkan formula 2 tidak ada perbedaan yang signifikan sebelum dan sesudah *cycling test* karena nilai signifikan  $>0,05$ .

## Lampiran 31. SPSS Uji Daya sebar

### Descriptives

Formula serum			Statistic	Std. Error		
Uji Daya Sebar	F1 sebelum cycling test	Mean	6.7833	.02963		
		95% Confidence Interval for Mean	Lower Bound	6.6559		
			Upper Bound	6.9108		
		5% Trimmed Mean	.			
		Median	6.7700			
		Variance	.003			
		Std. Deviation	.05132			
		Minimum	6.74			
		Maximum	6.84			
		Range	.10			
		Interquartile Range	.			
		Skewness	1.090	1.225		
		Kurtosis	.	.		
		F1 sesudah cycling test	F1 sesudah cycling test	Mean	6.9833	.02906
				95% Confidence Interval for Mean	Lower Bound	6.8583
Upper Bound	7.1084					
5% Trimmed Mean	.					
Median	6.9900					
Variance	.003					
Std. Deviation	.05033					
Minimum	6.93					
Maximum	7.03					
Range	.10					
Interquartile Range	.					
Skewness	-.586			1.225		
Kurtosis	.			.		
F2 sebelum cycling test	F2 sebelum cycling test			Mean	6.5633	.06642
				95% Confidence Interval for Mean	Lower Bound	6.2776
		Upper Bound	6.8491			
		5% Trimmed Mean	.			
		Median	6.5600			
		Variance	.013			
		Std. Deviation	.11504			
		Minimum	6.45			
		Maximum	6.68			
		Range	.23			
		Interquartile Range	.			
		Skewness	.130	1.225		
		Kurtosis	.	.		
		F2 sesudah cycling test	F2 sesudah cycling test	Mean	6.6267	.05239
				95% Confidence Interval for Mean	Lower Bound	6.4013
Upper Bound	6.8521					
5% Trimmed Mean	.					
Median	6.5900					
Variance	.008					
Std. Deviation	.09074					
Minimum	6.56					
Maximum	6.73					
Range	.17					
Interquartile Range	.					
Skewness	1.521			1.225		
Kurtosis	.			.		

### Tests of Normality

Formula serum	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk			
	Statistic	df	Sig.	Statistic	df	Sig.	
Uji Daya Sebar	F1 sebelum cycling test	.269	3	.	.949	3	.567
	F1 sesudah cycling test	.219	3	.	.987	3	.780
	F2 sebelum cycling test	.178	3	.	.999	3	.952
	F2 sesudah cycling test	.324	3	.	.878	3	.317

a. Lilliefors Significance Correction

Keterangan : data terdistribusi normal karena nilai signifikan >0,05

### Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Uji Daya Sebar	Based on Mean	.866	3	8	.497
	Based on Median	.436	3	8	.733
	Based on Median and with adjusted df	.436	3	5.616	.736
	Based on trimmed mean	.835	3	8	.512

Keterangan : data terdistribusi homogen karena nilai signifikan >0,05.

### T-Test

#### Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Daya Sebar F1 sebelum cycling test	6.3633	3	.02517	.01453
	Daya Sebar F1 sesudah cycling test	6.6267	3	.05132	.02963
Pair 2	Daya Sebar F2 sebelum cycling test	6.6200	3	.02646	.01528
	Daya Sebar F2 sesudah cycling test	6.8600	3	.04359	.02517

### Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Daya Sebar F1 sebelum cycling test & Daya Sebar F1 sesudah cycling test	3	.942	.218
Pair 2	Daya Sebar F2 sebelum cycling test & Daya Sebar F2 sesudah cycling test	3	.997	.048

### Paired Samples Test

		Paired Differences		Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig. (2-tailed)
		Mean	Std. Deviation		Lower	Upper			
Pair 1	Daya Sebar F1 sebelum cycling test - Daya Sebar F1 sesudah cycling test	-.26333	.02887	.01667	-.33504	-.19162	-15.800	2	.004
Pair 2	Daya Sebar F2 sebelum cycling test - Daya Sebar F2 sesudah cycling test	-.24000	.01732	.01000	-.28303	-.19697	-24.000	2	.002

Keterangan : formula 1 dan 2 ada perbedaan daya sebar yang signifikan sebelum dan sesudah *cycling test* karena nilai signifikan  $<0,05$



## Lampiran 32. SPSS Daya lekat

		Descriptives		Statistic	Std. Error		
Formula serum							
Daya lekat serum	F1 sebelum cycling test	Mean		3.67	.333		
		95% Confidence Interval for Mean	Lower Bound	2.23			
			Upper Bound	5.10			
		5% Trimmed Mean		.			
		Median		4.00			
		Variance		.333			
		Std. Deviation		.577			
		Minimum		3			
		Maximum		4			
		Range		1			
		Interquartile Range		.			
		Skewness		-1.732	1.225		
		Kurtosis		.	.		
		F1 sesudah cycling test	F1 sesudah cycling test	Mean		3.33	.333
				95% Confidence Interval for Mean	Lower Bound	1.90	
					Upper Bound	4.77	
				5% Trimmed Mean		.	
Median				3.00			
Variance				.333			
Std. Deviation				.577			
Minimum				3			
Maximum				4			
Range				1			
Interquartile Range				.			
Skewness				1.732	1.225		
Kurtosis				.	.		
F2 sebelum cycling test	F2 sebelum cycling test			Mean		4.67	.333
				95% Confidence Interval for Mean	Lower Bound	3.23	
					Upper Bound	6.10	
				5% Trimmed Mean		.	
		Median		5.00			
		Variance		.333			
		Std. Deviation		.577			
		Minimum		4			
		Maximum		5			
		Range		1			
		Interquartile Range		.			
		Skewness		-1.732	1.225		
		Kurtosis		.	.		
		F2 sesudah cycling test	F2 sesudah cycling test	Mean		3.67	.333
				95% Confidence Interval for Mean	Lower Bound	2.23	
					Upper Bound	5.10	
				5% Trimmed Mean		.	
Median				4.00			
Variance				.333			
Std. Deviation				.577			
Minimum				3			
Maximum				4			
Range				1			
Interquartile Range				.			
Skewness				-1.732	1.225		
Kurtosis				.	.		

### Tests of Normality

Formula serum	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk			
	Statistic	df	Sig.	Statistic	df	Sig.	
Daya lekat serum	F1 sebelum cycling test	.385	3	.	.750	3	.000
	F1 sesudah cycling test	.385	3	.	.750	3	.000
	F2 sebelum cycling test	.385	3	.	.750	3	.000
	F2 sesudah cycling test	.385	3	.	.750	3	.000

a. Lilliefors Significance Correction

Keterangan : data terdistribusi tidak normal karena nilai signifikan <0,05

### Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Signifikan.
Uji Daya Lekat	Based on Mean	.000	3	8	1.000
	Based on Median	.000	3	8	1.000
	Based on Median and with adjusted df	.000	3	8.000	1.000
	Based on trimmed mean	.000	3	8	1.000

Keterangan : data terdistribusi homogen karena nilai signifikan >0,05

## NPar Tests

### Wilcoxon Signifikanned Ranks Test

		N	Mean Rank	Sum of Ranks
daya lekat F1 sesudah cycling test - daya lekat F1 sebelum cycling test	Negative Ranks	1 <sup>a</sup>	1.00	1.00
	Positive Ranks	0 <sup>b</sup>	.00	.00
	Ties	2 <sup>c</sup>		
	Total	3		
daya lekat F2 sesudah cycling test - daya lekat F2 sebelum cycling test	Negative Ranks	2 <sup>d</sup>	1.50	3.00
	Positive Ranks	0 <sup>e</sup>	.00	.00
	Ties	1 <sup>f</sup>		
	Total	3		

a. daya lekat F1 sesudah cycling test < daya lekat F1 sebelum cycling test

b. daya lekat F1 sesudah cycling test > daya lekat F1 sebelum cycling test

- c. daya lekat F1 sesudah cycling test = daya lekat F1 sebelum cycling test
- d. daya lekat F2 sesudah cycling test < daya lekat F2 sebelum cycling test
- e. daya lekat F2 sesudah cycling test > daya lekat F2 sebelum cycling test
- f. daya lekat F2 sesudah cycling test = daya lekat F2 sebelum cycling test

**Test Statistics<sup>a</sup>**

	daya lekat F1 sesudah cycling test - daya lekat F1 sebelum cycling test	daya lekat F2 sesudah cycling test - daya lekat F2 sebelum cycling test
Z	-1.000 <sup>b</sup>	-1.342 <sup>b</sup>
Asymp. Signifikan. (2-tailed)	.317	.180

a. Wilcoxon Signifikanned Ranks Test

b. Based on positive ranks.

Keterangan : formula 1 dan 2 tidak ada perbedaan daya lekat yang signifikan sebelum dan sesudah *cycling test* karena nilai signifikan >0,05.

**Lampiran 33. SPSS Uji Aktivitas Antioksidan**  
**Aktivitas antioksidan minyak biji anggur dan nanoliposom minyak biji anggur**

**Descriptives**

Uji Aktivitas Antioksidan		Statistic	Std. Error			
Aktivitas_Antioksidan	minyak biji anggur	Mean	16.5565533	.52410056		
		95% Confidence Interval for Mean	Lower Bound	14.3015306		
			Upper Bound	18.8115760		
		5% Trimmed Mean		.		
		Median	16.4316400			
		Variance	.824			
		Std. Deviation	.90776880			
		Minimum	15.71771			
		Maximum	17.52031			
		Range	1.80260			
		Interquartile Range		.		
		Skewness	.607	1.225		
		Kurtosis		.		
		nanoliposom MBA	nanoliposom MBA	Mean	38.9887742	2.77384878
				95% Confidence Interval for Mean	Lower Bound	27.0538662
Upper Bound	50.9236822					
5% Trimmed Mean				.		
Median	38.9822700					
Variance	23.083					
Std. Deviation	4.80444702					
Minimum	34.18758					
Maximum	43.79647					
Range	9.60889					
Interquartile Range				.		
Skewness	.006			1.225		
Kurtosis				.		

**Tests of Normality**

Uji Aktivitas Antioksidan		Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
Aktivitas_Antioksidan	minyak biji anggur	.221	3	.	.986	3	.772
	nanoliposom MBA	.175	3	.	1.000	3	.998

a. Lilliefors Significance Correction

Keterangan : data terdistribusi normal karena nilai sig >0,05.

### Tests of Normality

Uji Aktivitas Antioksidan	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Aktivitas_Antioksidan						
minyak biji anggur	.221	3	.	.986	3	.772
nanoliposom MBA	.175	3	.	1.000	3	.998

a. Lilliefors Significance Correction

Keterangan : data terdistribusi homogen karena nilai sig >0,05

### ANOVA

Aktivitas\_Antioksidan

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	754.807	1	754.807	63.146	.001
Within Groups	47.814	4	11.953		
Total	802.620	5			

Keterangan : ada perbedaan yang signifikan uji aktivitas antioksidan antara minyak biji anggur dan nanoliposom minyak biji anggur karena nilai sig <0,05

## Lampiran 34. SPSS Uji Aktivitas Antioksidan

### Formula serum

#### Descriptives

Formula serum		Statistic	Std. Error		
Aktivitas antioksidan	Formula 1	Mean	91.3518900	1.01024254	
		95% Confidence Interval for Mean	Lower Bound	87.0051672	
			Upper Bound	95.6986128	
		5% Trimmed Mean	.		
		Median	91.4904000		
		Variance	3.062		
		Std. Deviation	1.74979141		
		Minimum	89.53696		
		Maximum	93.02831		
		Range	3.49135		
		Interquartile Range	.		
		Skewness	-.354	1.225	
		Kurtosis	.	.	
	Formula 2	Mean	58.5132300	1.60291047	
		95% Confidence Interval for Mean	Lower Bound	51.6164629	
			Upper Bound	65.4099971	
5% Trimmed Mean		.			
Median		59.7962500			
Variance		7.708			
Std. Deviation		2.77632238			
Minimum		55.32744			
Maximum		60.41600			
Range		5.08856			
Interquartile Range		.			
Skewness		-1.635	1.225		
Kurtosis		.	.		

#### Tests of Normality

Formula serum	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk			
	Statistic	df	Sig.	Statistic	df	Sig.	
Aktivitas antioksidan	Formula 1	.198	3	.	.995	3	.869
	Formula 2	.345	3	.	.840	3	.214

a. Lilliefors Significance Correction

Keterangan : data terdistribusi normal karena nilai signifikan >0,05.

## Oneway

### Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Signifikan.
Uji Aktivitas Antioksidan	Based on Mean	1.386	1	4	.304
	Based on Median	.123	1	4	.744
	Based on Median and with adjusted df	.123	1	2.700	.751
	Based on trimmed mean	1.210	1	4	.333

Keterangan : data terdistribusi homogen karena nilai signifikan  $>0,05$

### ANOVA

Aktivitas antioksidan

	Sum of Squares	df	Mean Square	F	Signifikan.
Between Groups	1617.566	1	1617.566	300.391	.000
Within Groups	21.539	4	5.385		
Total	1639.106	5			

Keterangan : ada perbedaan yang signifikan uji aktivitas antioksidan antara formula 1 dan 2 karena nilai signifikan  $<0,05$

## Lampiran 35 Logbook Bimbingan



### LAPORAN BIMBINGAN TA/SKRIPSI UNIVERSITAS NGUDI WALUYO

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Ketua Program Studi : Richa Yuwantina, S.Farm,Apt, M.Si  
Dosen Pembimbing (1) : Istianatus Sunnah, S.Farm., Apt., M.Sc  
Dosen Pembimbing (2) : Istianatus Sunnah, S.Farm., Apt., M.Sc  
Judul Ta/Skripsi : FORMULASI DAN EVALUASI KARAKTERISTIK FISIK SERUM NANOLIPOSOM MINYAK BIJI ANGGUR ( *Vitis vinifera* L.)  
Abstrak : Perawatan kulit dibutuhkan agar kulit tidak kering,dan kusam. Salah satu kosmetik yang dapat digunakan untuk merawat Kesehatan kulit yaitu serum. Serum merupakan sediaan dengan zat aktif konsentrasi tinggi dan viskositas rendah yang menghantarkan film tipis dari bahan aktif pada permukaan kulit. Minyak biji anggur mengandung senyawa fenolik asam lemak, dan vitamin yang berpotensi bagi industry farmasi terutama kosmetik (Garavaglia et al., 2016). Kandungan minyak biji anggur, terutama tokoferol, asam linolenat, resveratrol, quercetin, procyanidina, karotenoid, dan fitosterol (Kapsandi et al., 2021). Kandungan vitamin E yang tinggi pada minyak biji anggur dapat mengatasi penuaan kulit karena mengandung antioksidan (Kapsandi et al., 2021). Kosmetika teknologi nano memiliki keuntungan yang sangat besar, yaitu formula mampu penetrasi ke lapisan kulit paling dalam (dermis) dibandingkan dengan kosmetika konvensional yang hanya mampu menembus kulit terluar (stratum corneum). Kesuntungan lainnya yaitu teksturnya bagus, bentuknya transparan, bioavailabilitasnya tinggi, stabilitas dan efikasi kosmetik menjadi lebih baik, memiliki daya tarik estetik di kulit lebih baik dan lebih lama. Industry farmasi saat ini sedang mengembangkan sediaan farmasi terutama kosmetik dalam bentuk nano salah satunya nanoliposome (Fakhravar et al., 2016). Inovasi nanoliposom dalam sediaan kosmetika dapat meningkatkan stabilitas, efikasi, penetrasi zat aktif ke dalam kulit serta mengurangi toksisitas. (Panahi et al., 2017). Tujuan penelitian ini adalah memformulasikan minyak biji anggur dalam sediaan serum untuk mengetahui stabilitas fisik sediaan. Metode yang digunakan dalam penelitian ini yaitu eksperimental laboratorium dan melakukan pegujian stabilitas dipercepat. Pengujian yang akan dilakukan yaitu antioksidan. Kestabilan sediaan dapat dilihat berdasarkan hasil pengujian antioksidan, organoleptic, pH, viskositas, daya sebar, daya lekat, dan homogenitas. Hasil pengujian stabilitas fisik sediaan serum diolah menggunakan statistik dengan metode One Way ANOVA.  
Tanggal Pengajuan : 05/10/2023 17:24:24  
Tanggal Acc Judul : 09/10/2023 14:26:25  
Tanggal Selesai Proposal : 08/12/2023 09:10:49  
Tanggal Selesai TA/Skripsi : -

No	Hari/Tgl	Keterangan	Dosen/Mhs
		BIMBINGAN PROPOSAL	



1	Sabtu,14/10/2023 04:18:49	Bimbingan awal pra skripsi 17 September 2023 prosedur penyusunan proposal persyaratan proposal pencarian tema dan pustaka	Istianatus Sunnah, S.Farm., Apt., M.Sc
2	Sabtu,14/10/2023 04:19:49	Bimbingan judul dan tema penentuan tema penentuan pustka metode yang digunakan 24 September 2023	Istianatus Sunnah, S.Farm., Apt., M.Sc
3	Jumat,03/11/2023 22:51:04	Bimbingan bab 1-3	Istianatus Sunnah, S.Farm., Apt., M.Sc
4	Jumat,08/12/2023 09:07:18	8 November 2023 Revisi acc disetujui masuk ke lab	Istianatus Sunnah, S.Farm., Apt., M.Sc
5	Jumat,08/12/2023 09:10:32	9 November 2023 Konsul hasil nanoliposom Ukuran partikel 7,567 nm pH 6,57 acc lanjutkan evaluasi	Istianatus Sunnah, S.Farm., Apt., M.Sc
<b>BIMBINGAN TA/SKRIPSI</b>			
6	Senin,11/12/2023 03:10:36	20 November 2023 Konsul Hasil uji antioksidan Minyak Biji anggur 38,579 ppm (sangat kuat) Vit C 13,879 ppm Serum F1R1 100,389 ppm ( kuat)  Nilai R2 belu sesuai ubah dan cek lagi antioksidan	Istianatus Sunnah, S.Farm., Apt., M.Sc
7	Senin,11/12/2023 03:14:54	24 November 2023 Konsul hasil data antioksidan kedua VIT C 10,674 – sangat kuat Minyak Biji anggur 15,56 – sangat kuat Serum F1 R1 91,49 ppm serum F1 R2 89, 53 ppm serum F1 R3 93, 02 ppm Serum F2 R1 60,4 ppm Serum F 2 R 2 59, 79 ppm Serum F 2 R3 55, 32 ppm Lanjutkan evaluasi karakteristik Fisik Buat Pembahasan	Istianatus Sunnah, S.Farm., Apt., M.Sc
8	Senin,11/12/2023 03:15:45	Konsul Pembahasan hasil data penelitian	Istianatus Sunnah, S.Farm., Apt., M.Sc
9	Senin,11/12/2023 08:54:56	Perbaiki data antioksidan perbaiki narasi di latar belakng, tinjauan pustaka sertakan data2 untuk lampiran  <a href="https://drive.google.com/drive/folders/1pum4A18HxVWQzwwLw7gyQ4a_SyzF1jg5?usp=sharing">https://drive.google.com/drive/folders/1pum4A18HxVWQzwwLw7gyQ4a_SyzF1jg5?usp=sharing</a>	Istianatus Sunnah, S.Farm., Apt., M.Sc

10	Senin,01/01/2024 05:09:57	1 Januari 2024 konsul revisi bab 1-5 catatan terlampir <a href="https://drive.google.com/drive/folders/13T5nj83pQHzk_wemhebBSUUUUKSI05w?usp=sharing">https://drive.google.com/drive/folders/13T5nj83pQHzk_wemhebBSUUUUKSI05w?usp=sharing</a>	Istianatus Sunnah, S.Farm., Apt., M.Sc
11	Kamis,04/01/2024 06:34:38	silakan perbaiki narasi dan pembahasan uji cycling test di buat dan di bahas pre dan post <a href="https://drive.google.com/drive/folders/13T5nj83pQHzk_wemhebBSUUUUKSI05w?usp=drive_link">https://drive.google.com/drive/folders/13T5nj83pQHzk_wemhebBSUUUUKSI05w?usp=drive_link</a>	Istianatus Sunnah, S.Farm., Apt., M.Sc
12	Rabu,17/01/2024 00:23:34	Konsul taanggal 13 Januari perbaiki abstrak rumusan dan pembahasan. pembahasan masih belum maksimal, yang dibahas hanya data tanpa referensi kesimpulan sesuaikan dengan rumusan lengkapi naskah sampai fixx  <a href="https://drive.google.com/drive/folders/1PsW4-H2tp3jko6L.DuKdEcqmD-u3TNjgA?usp=sharing">https://drive.google.com/drive/folders/1PsW4-H2tp3jko6L.DuKdEcqmD-u3TNjgA?usp=sharing</a>	Istianatus Sunnah, S.Farm., Apt., M.Sc
13	Rabu,17/01/2024 00:25:12	Konsul 16 Januari masih ada beberapa narasi yang tidak pas di pembahasan, penulisan pustaka masih belum sempurna, keterbatasan cek lagi perbaiki naskah  disetujui untuk daftar ujian  <a href="https://drive.google.com/drive/folders/1GTR-mtJo0oc8hPdINycSxIAy3P9EXNVn?usp=sharing">https://drive.google.com/drive/folders/1GTR-mtJo0oc8hPdINycSxIAy3P9EXNVn?usp=sharing</a>	Istianatus Sunnah, S.Farm., Apt., M.Sc
14	Sebtu,20/01/2024 04:12:07	acc ujian skripsi	Istianatus Sunnah, S.Farm., Apt., M.Sc

Mengetahui,  
Ketua Program Studi



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Semarang, 29 Januari 2024



MONICA DYAS MEILALITA  
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Dosen Pembimbing (1)



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Dosen Pembimbing (2)



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